



KINTEK SOLUTION

Vacuum Furnace Catalog

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KINTEK SOLUTION

COMPANY PROFILE

>>> About Us

Kintek Solution Ltd is one technology orientated organization, team members are devoted to probing the most efficient and reliable technology and innovations in the scientific researching equipment, fields like biochemical reacting, new materials researching, heat treatment, vacuum creating, refrigerating, as well as pharmaceutical and petroleum extracting equipment.

In the past 20 years, we earned rich experiences in this researching equipment field, we are capable to supply both the equipment and solution according to customer's needs and realities, we have also developed lots of customer tailored equipment according to a specific working purpose, and we have lots of successful projects in many universities and institutes from different countries, like Asia, Europe, North and South America, Australia and New Zealand, Middle East, and Africa.

Profession, quick response, hard working, and sincerity is a remarkable label of our team members working attitude, which earn us a sound reputation among our clients.

We are here and ready to service our clients from different countries and regions, and share the most efficient and reliable technology together!



Vacuum Furnace With Ceramic Fiber Liner

Item Number: KT-VF



Introduction

Vacuum furnace with polycrystalline ceramic fiber insulation liner for excellent heat insulation and uniform temperature field. Choose from 1200°C or 1700°C max. working temperature with high vacuum performance and precise temperature control.

[Learn More](#)

Furnace model	KT-VF12/KT-VF17
Max. temperature	1200/1700°C
Constant work temperature	1100/1600°C
Chamber material	Ceramic polycrystalline fiber
Heating element	Cr2Al2Mo2 wire coil/Molybdenum Disilicide
Heating rate	0-20°C/min
Temperature sensor	Build in K/B type thermal couple
Temperature controller	Touch screen PID controller with PLC
Temperature control accuracy	±1°C
Temperature uniformity	±5°C
Electric power supply	AC110-440V,50/60HZ

Standard Chamber Sizes Stocks			
Chamber size (mm)	Effective volume (L)	Chamber size (mm)	Effective volume (L)
100x100x100	1	400x400x500	80
150x150x200	4.5	500x500x600	125
200x200x300	12	600x600x700	253
300x300x400	36	800x800x800	512

Customer design sizes and volume is accepted

Molybdenum Vacuum Furnace

Item Number: KT-VM



Introduction

Discover the benefits of a high-configuration molybdenum vacuum furnace with heat shield insulation. Ideal for high-purity, vacuum environments like sapphire crystal growth and heat treatment.

[Learn More](#)

Furnace model	KT-VM
Max. temperature	1400 °C
Constant work temperature	1300 °C
Chamber insulation material	molybdenum heat shield
Heating element	Molybdenum Strip
Heating rate	0-10°C/min
Temperature sensor	Build in S type thermal couple
Temperature controller	Touch screen PID controller with PLC
Temperature control accuracy	±1°C
Temperature uniformity	±5°C
Electric power supply	AC110-440V,50/60HZ

Standard Chamber Sizes Stocks

Chamber size (mm)	Effective volume (L)	Chamber size (mm)	Effective volume (L)
150x150x200	4.5	400x400x500	80
200x200x300	12	500x500x600	125
300x300x400	36	600x600x700	253

Customer design sizes and volume is accepted

Furnace Chamber

- Regularly inspect the chamber's interior surface for brightness.
- Ensure dryness and cleanliness inside the chamber to prevent oxidation and product contamination.
- Avoid rapid heating rates that may cause thermal expansion deformation of the insulation screen.
- Verify the leak rate and ultimate vacuum before initiating heating.
- Maintain a vacuum in the chamber when not in use, and perform chamber baking if volatiles are present.
- Implement a slower heating rate during high-temperature stages.

<p>Molybdenum Strips Heater</p>	<ul style="list-style-type: none"> • Molybdenum Strips Heater • Take care not to drop objects onto the molybdenum strips when removing products, as it may cause breakage. • Prevent low-melting point iron-containing products from volatilizing onto the molybdenum strips, as it can lead to strip melting and breakage over time. • Securely hold the product with both hands or appropriate tools when taking it out. • Strictly control the impurity content in the product.
<p>Pirani Gauge and Ionisation Gauge</p>	<ul style="list-style-type: none"> • Adhere to safety regulations for electrical equipment when operating and maintaining pirani gauges. • Avoid forcibly disassembling the gauge tubes while the furnace is under vacuum. • Do not pressurize the gauge (above 0.05Pa); if necessary, turn off the gauge power. • Refrain from introducing corrosive gas atmospheres. • Calibrate the vacuum gauge with dry air or nitrogen, as other atmospheres may cause measurement deviations. • Avoid turning on the ionization gauge under atmospheric pressure, as it may result in damage. • Clean the seals and contact surfaces with acetone or alcohol when disassembling, and apply vacuum grease before reassembling. • Perform zero point and full-scale calibration for the first use or after a period of use to match the vacuum and pirani gauges.
<p>Mechanical Pump</p>	<ul style="list-style-type: none"> • Ensure the pump temperature does not exceed 45 degrees to prevent non-wear of the pump cavity and detrimental effects on the vacuum. • Monitor the oil color in the oil window regularly. • Check for oil splashing from the exhaust when starting the vacuum pump, and inspect the oil level. • Measure the pump temperature before and during operation, and monitor the cooling water temperature. • Change the oil every three months (model: HFV-100). • If the oil level is high, open the drain valve to lower it to the standard level.
<p>Roots Pump</p>	<ul style="list-style-type: none"> • Maintain cleanliness inside the pump cavity. • Monitor the quality of pump oil. • Ensure proper pump rotation. • Avoid placing products with high moisture or large particles in the furnace chamber. • Promptly replace the diffusion pump oil if it becomes discolored or emulsified. • Immediately contact the manufacturer if any abnormal conditions occur with the pump.
<p>Diffusion Pump</p>	<ul style="list-style-type: none"> • Check if the diffuser oil in the oil window requires replacement. • Monitor the pumping speed after starting. • Ensure adequate cooling water supply to the pump. • Replace the diffusion pump oil with the appropriate model (HFV-3). • Verify that the heater temperature, oil level, and pump core installation are normal. • Maintain the pump surface temperature between 10-35 degrees Celsius and humidity below 65%.
<p>Water Cooler</p>	<ul style="list-style-type: none"> • Thoroughly read the manual before operating the water cooler. • Pay attention to the rotation directions of the inlet and outlet water pumps. • Confirm that the furnace water inlet pressure is displayed correctly after starting. • Establish an effective heat dissipation system. • Regularly check the water quality inside the water tank. • Clean the heat dissipation system every 3-5 months. • Avoid overloading the set temperature; for example, if the set temperature is 20 degrees, it should not go below 21 degrees. Adjust the set point above 21 degrees. • Ensure proper ventilation for the cooler's placement. • Occasionally open the side cover and clean the inside water tank with diluted hydrochloric acid.

2200 °C Graphite Vacuum Furnace

Item Number: KT-VG



Introduction

Discover the power of the KT-VG Graphite Vacuum Furnace - with a maximum working temperature of 2200°C, it's perfect for vacuum sintering of various materials. Learn more now.

[Learn More](#)

Furnace model	KT-VG		
Max. temperature	2200 °C		
Constant work temperature	2100 °C		
Chamber insulation material	Graphite felt		
Heating element	Graphite resistant rod		
Heating rate	0-10°C/min		
Temperature sensor	T/R thermocouple and infrared thermometer		
Temperature controller	Touch screen PID controller with PLC		
Temperature control accuracy	±1°C		
Electric power supply	AC110-440V,50/60HZ		
Standard Chamber Sizes Stocks			
Chamber size (mm)	Effective volume (L)	Chamber size (mm)	Effective volume (L)
200x200x300	12	400x400x600	96
300x300x400	36	500x500x700	150
Customer design sizes and volume is accepted			

2200 °C Tungsten Vacuum Furnace

Item Number: KT-VT



Introduction

Experience the ultimate refractory metal furnace with our Tungsten vacuum furnace. Capable of reaching 2200°C, perfect for sintering advanced ceramics and refractory metals. Order now for high-quality results.

[Learn More](#)

Furnace model	KT-VT		
Max. temperature	2200 °C		
Constant work temperature	2100 °C		
Chamber insulation material	Tungsten heat shield		
Heating element	Tungsten coil/mesh		
Heating rate	0-10°C/min		
Temperature sensor	T/R thermocouple and infrared thermometer		
Temperature controller	Touch screen PID controller with PLC		
Temperature control accuracy	±1°C		
Electric power supply	AC110-440V,50/60HZ		
Standard Chamber Sizes			
Model	Chamber size	Temperature uniformity	Rated power
KT-VT1010	φ100x 100mm	±3°C	21Kw
KT-VT2030	φ200x 300mm		68Kw
KT-VT3050	φ300x 500mm		120Kw
KT-VT4060	φ400x 600mm		160Kw
Customer design sizes and volume is accepted			

Vacuum Induction Melting Furnace Arc Melting Furnace

Item Number: KT-VI



Introduction

Get precise alloy composition with our Vacuum Induction Melting Furnace. Ideal for aerospace, nuclear energy, and electronic industries. Order now for effective smelting and casting of metals and alloys.

[Learn More](#)

Crucible effective volume	4L
Crucible effective capacity (Steel)	20kgs
Max temperature	2000 °C
Max melting vacuum	<ul style="list-style-type: none"> • 7×10⁻³Pa • Vacuum time: open diffusion pump when preheating is complete, then up to 7×10⁻³Pa in 30 minutes.
Rated power	60KW
Rated voltage	375V
Power frequency	50HZ
Rated frequency	1500~2500HZ
Rated frequency	1500~2500HZ
Heat element	Induction copper coil
Vacuum system	<ul style="list-style-type: none"> • 70L/s Double stage Rotary vane mechanical pump • Dia.300mm diffusion pump, Max. pumping speed: 5000L/s • Dia.300mm diffusion pump clod trap, effective cooling cycle for pump oil • Dia.300mm diffusion pump flapper valve + Dia.80mm former pump flapper valve • Stainless pipe + stainless bellows

Model	Capacity	Temperature	Vacuum	Rated power
KT-VI5	5kg	1700 °C	6x10 ⁻³ Pa	40Kw
KT-VI10	10kg			40Kw
KT-VI25	25kg			75Kw
KT-VI50	50kg			100Kw
KT-VI100	100kg			160Kw
KT-VI200	200kg			200Kw
KT-VI500	500kg			500Kw

Semi-contentiously melting production can be customized

Vacuum Levitation Induction Melting Furnace

Item Number: KT-VIL



Introduction

Experience precise melting with our Vacuum Levitation Melting Furnace. Ideal for high melting point metals or alloys, with advanced technology for effective smelting. Order now for high-quality results.

[Learn More](#)

Model	KT-VIL-0.5	KT-VIL-2	KT-VIL-5	KT-VIL-10	KT-VIL-20
Capacity	0.5kg	2kg	5kg	10kg	20kg
Vacuum leakage	5Pa/h				
Vacuum pressure	6×10 ⁻³ Pa				
Power supply	380V[3phase]50Hz				
Frequency	6000-10000Hz				
Rated power	25kW	160kW	400kW	400kW	500kW
Cold water pressure	0.2-0.4MPa				
Cold water consumption	3M3	15M3	30M3	40M3	45M3

Vacuum Induction Melting Spinning System Arc Melting Furnace

Item Number: KT-VIS



Introduction

Develop metastable materials with ease using our Vacuum Melt Spinning System. Ideal for research and experimental work with amorphous and microcrystalline materials. Order now for effective results.

[Learn More](#)

Model	KT-VIS2	KT-VIS15	KT-VIS50	KT-VIS100
Capacity	20g	150g	500g	1000g
Crucible	Boron Nitride/Quartz			
Belt width	1-10mm	1-30mm	1-40mm	1-70mm
Spinner size	φ200mm	φ220mm	φ300mm	φ300mm
Speed	3000r/min			
Vacuum	6.7*10 ⁻⁴ pa			
Insert gas	Ar			
Rated power	7kw	15kw	25kw	35kw
Power supply	AC110-480V 50/60HZ			
Optional part	Infrared temperature meter, recirculating chiller, Spray casting copper mold			

Other requirement can be customized

Vacuum Arc Furnace Induction Melting Furnace

Item Number: KT-VA



Introduction

Discover the power of Vacuum Arc Furnace for melting active & refractory metals. High-speed, remarkable degassing effect, and free of contamination. Learn more now!

[Learn More](#)

Model	KT-VA1	KT-VA5	KT-VA25	KT-VA200
Capacity (Kg)	1	5-15	25	200
Working voltage (V)	20-40			
Working current (A)	1000A	3000A	6000A	12000A
Vacuum pressure (Pa)	1.3-1.3x10 ⁻²			
Electrode size (mm)	Φ25-40 x 400	Φ10-45x1200	Φ30-60x1350	Φ56-150x1745
Ingot size (mm)	Φ60x100	Φ80x135	Φ100x400mm	Φ200x670mm
Dimensions (m)	0.8x0.35x1.8	3.81x3.0x5.21	4.43x3.33x4.93	7.4x3.4x6.72

Non Consumable Vacuum Arc Furnace Induction Melting Furnace

Item Number: KT-VAN



Introduction

Explore the benefits of Non-Consumable Vacuum Arc Furnace with high melting point electrodes. Small, easy to operate & eco-friendly. Ideal for laboratory research on refractory metals & carbides.

[Learn More](#)

Melting temperature	3500 °C
Vacuum chamber	304 stainless steel
Vacuum pressure	
Melting capacity	20-500g
Rated melting current	200-1000A
Smelting station	5-7 standard smelting station
Insert working gas	Ar
Optional function	Suction casting/Extra smelting station

Vacuum Pressure Sintering Furnace

Item Number: KT-VPS



Introduction

Vacuum pressure sintering furnaces are designed for high temperature hot pressing applications in metal and ceramic sintering. Its advanced features ensure precise temperature control, reliable pressure maintenance, and a robust design for seamless operation.

[Learn More](#)

Maximum temperature	2100°C
Pressure range	10-800T
Heating method	Graphite
Vacuum degree	6×10 ⁻³ Pa
Effective workspace	Customizable

600T Vacuum Induction Hot Press Furnace

Item Number: KT-VH



Introduction

Discover the 600T Vacuum Induction Hot Press Furnace, designed for high-temperature sintering experiments in vacuum or protected atmospheres. Its precise temperature and pressure control, adjustable working pressure, and advanced safety features make it ideal for nonmetal materials, carbon composites, ceramics, and metal powders.

[Learn More](#)

Maximum pressure	600T
Mold outer diameter	Ø680mm
Mold material	Graphite
Large sample size	Ø500mm
Cold vacuum degree	10Pa
Furnace body form	One for two
Heating method	Induction
Pressure method	Four-column mechanical pressurization

Vacuum Molybdenum Wire Sintering Furnace

Item Number: KT-VMW



Introduction

A vacuum molybdenum wire sintering furnace is a vertical or bedroom structure, which is suitable for withdrawal, brazing, sintering and degassing of metal materials under high vacuum and high temperature conditions. It is also suitable for dehydroxylation treatment of quartz materials.

[Learn More](#)

Temperature	1600°C
Working area size	Φ60×80 mm, Φ160×160 mm, Φ200×200 mm, Φ300×400 mm, Φ400×500 mm, etc.
Cold ultimate vacuum degree:	10 ⁻³ or 10 ⁻⁴ Pa
Pressure rise rate	≤3Pa/h
Power supply	Three-phase 380 V 50 Hz
Furnace temperature uniformity	±5 °C (under vacuum)
Loading and unloading methods	Upper or side or bottom
Automatic charging and discharging gas protection	Argon, nitrogen, hydrogen.
Control method	LCD touch screen and PLC as the core

Small Vacuum Tungsten Wire Sintering Furnace

Item Number: KT-VTW



Introduction

The small vacuum tungsten wire sintering furnace is a compact experimental vacuum furnace specially designed for universities and scientific research institutes. The furnace features a CNC welded shell and vacuum piping to ensure leak-free operation. Quick-connect electrical connections facilitate relocation and debugging, and the standard electrical control cabinet is safe and convenient to operate.

[Learn More](#)

9.8Mpa Air Pressure Sintering Furnace

Item Number: KT-APS



Introduction

The air pressure sintering furnace is a high-tech equipment commonly used for the sintering of advanced ceramic materials. It combines vacuum sintering and pressure sintering techniques to achieve high-density and high-strength ceramics.

[Learn More](#)

Air pressure sintering furnace	Vertical structure
The working area	Φ100×90mm, Φ200×220mm, etc.
The bottom-lift type	Φ300×400mm, etc.
The horizontal type	250×250×400mm, 375×375×475mm, etc.
Cold vacuum degree	10 ⁻³ Pa, 10Pa, etc
Maximum pressure	1.2MPa, 2MPa, 6MPa, 9.8MPa
Temperature	2000°C-2200°C

Vacuum Brazing Furnace

Item Number: KT-BF



Introduction

A vacuum brazing furnace is a type of industrial furnace used for brazing, a metalworking process that joins two pieces of metal using a filler metal that melts at a lower temperature than the base metals. Vacuum brazing furnaces are typically used for high-quality applications where a strong, clean joint is required.

[Learn More](#)

Rated power	100 Kw
Rated temperature	700 °C
Power supply	380 V, 50 Hz
Working area size	Φ820×1700□
Cold ultimate vacuum	6.67×10 ⁻³ Pa
Pressure rise rate	2pa/h
Temperature control accuracy	±1°C



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