KINTEK SOLUTION

Vacuum Hot Press Furnace Catalog

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KINTEK SOLUTION

COMPANY PROFILE

>>> About Us

KinTek Group Limited is one technology orientated organization, team members are devoted to probing the most efficicent and reliable technology and innovations in the scienticfic researching equipment, fields like biochemical reacting, new materials researching, heat treatment, vaccum creating, refrigerating, as while as pharmaceutical and petroleum extracting equipment.

Vacuum Hot Press Furnace Machine Heated Vacuum Press

Item Number: KT-VHP

Introduction

Discover the advantages of Vacuum Hot Press Furnace! Manufacture dense refractory metals & compounds, ceramics, and composites under high temp and pressure.

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Specification	• The electric furnace is heated by a vertical furnace body (pressure ranges from 5-800T, and the pressurization method is divided into one-way and two-way). The feeding and discharging methods are divided into top and side. , electronic control system and other components.
Furnace shell	• The furnace shell is a double-layer water-cooled structure, the inner layer is strictly polished stainless steel, the outer layer is stainless steel sandblasting matte treatment or carbon steel anti-rust treatment, water cooling is passed between the double layers, and the furnace shell does not exceed 60 °C. The furnace cover is lifted by a mechanical mechanism, manually rotated backwards to open (one-way pressure), and a locking device is installed on the furnace cover.
Stove side	• The side of the furnace is equipped with an observation window, a thermocouple automatic entry and exit mechanism, an infrared thermometer and a water-cooled electrode (three-phase). The automatic entry and exit of the thermoelectric cell is electric, with high and low temperature automatic switching. In order to prevent accidents caused by abnormal furnace temperature, there is also an over-temperature protection thermocouple on the side of the furnace.
The heating element	• The heating element is made of graphite tube (or molybdenum wire), which can be divided into single-phase and three-phase heating. The rational design of the heating element improves the uniformity of the furnace temperature.
The insulation layer	• The insulation layer is made of graphite (or graphite paper), carbon felt, etc., which has good insulation performance, and the unique structural design reduces the vacuuming time. The insulation layer of the molybdenum wire hot pressing furnace is a metal reflective screen.
The vacuum system	• The vacuum system consists of two-stage vacuum pumps, one oil diffusion pump and one mechanical pump to complete the high and low vacuum. The vacuum valve adopts the high-vacuum baffle valve designed and produced by our company, which can realize automatic switching and control of high and low vacuum with digital display vacuum gauge and PLC.
The main circuit of the electric control system	• The main circuit of the electric control system is low-voltage and high-current input. The electric control cabinet is made with reference to the standard cabinet of Rittal. It is humanized design. There are graphic simulation screens and buttons on the control panel. The operation is intuitive and convenient. The temperature and pressure control are controlled by imported brand programs. Instrument, the cabinet is equipped with a PLC, and the sintering process is automatically completed near the preset program. The control system has sound and light alarm functions for abnormal phenomena such as water cut-off, over-temperature, over-current, and thermocouple automatic switching failure.

Working temperature	1500℃ / 2200℃
Heating element	Molybdenum/Graphite
Working pressure	10-400T
Press distance	100-200mm
Vacuum pressure	6x10-3Pa

Effective working area diameter range	90-600mm
Effective working area diameter range	120-600mm

Vacuum Hot Press Furnace Machine For Lamination And Heating

Item Number: KT-VLP

Introduction

Experience clean and precise lamination with Vacuum Lamination Press. Perfect for wafer bonding, thin-film transformations, and LCP lamination. Order now!

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Dimensions	Over-all: 775mm(L) x 550mm(W) x 1325mm(H)
Structure	• Two 135 x 135 mm flat heating platens made of high temperature resistant Cr steel with max. • working temperature of 500ºC • 1000W Heating element is inserted into the center of the heating plates for fast heating • Max. Load on 135x135mm Heated Platen: 10 Metric Tons at 500°C (55 kg/cm2);20 Metric Tons at RT (110 kg/cm2) • Two precision temperature controllers which control two heating plates separately • with 30 programmable segements • Water cooling jackets are built on the both top & bottom of the heating plates for assisting cooling
Hydraulic Pump	• Modified electric hydraulic press is connected to vacuum chamber. • Movable distance between two heating plates: 15 mm. • Automatic max. pressure controlled via a digital pressure gauge. • Pressure accuracy: +/-0.01 Mpa (0.1 kg/cm²) • Two flat heating plates are installed with water cooling plates for Max. 500ºC working temperature. • Water cooling (>15L/min) is required to cool the heating plates when the operating temperature is over 200 ºC.
Temperature control and Pressure Display	• Two precision temperature controllers with 30 programmable segments control the heating plates . • separately with +/1°C accuracy. • The temperature controllers have PID auto tune function, over-temperature protection and thermal couple broken protection. • Max. Temperature: 500°C with inert gas or vacuum with accuracy +/-1°C • Max. Heating rate: 2.5°C/min • Software and PC interface is built in the controller , which can be connected to a PC for computer controlling via a RS232 connector. • Digital pressure meter (controller) is built outside the vacuum chamber. • You can set pressure at the desired value which can stop the electric hydraulic press automatically.
Vacuum Charmber	• Electric hydraulic press and heating plates are placed inside then vacuum chamber. • Vacuum chamber is made of SS304 with the size: 525Lx480Wx450H (mm). • Vacuum chamber Capacity : about 75 Liters. • 300mm dia. vacuum sealed hinged type door with 150mm Dia. quartz glass window is installed for easy sample loading and observation. • Silicone O-ring can be used for all vacuum sealings . • One precision digital vacuum guage (10E-4 torr) is installed on the vacuum chamber .

Model	KT-VLP100	KT-VLP300	KT-VLP400
Heating plate size	100x100mm	300x300mm	400x400mm
Plates travel distance	30mm	40mm	40mm
Working pressure	30T during heating/40Tin the cold state		
Pressure gauge	Digital pressure gauge		
Heating temperature	<500℃		
Temperature control	Touch screen with PID thermal controller		
Vacuum chamber	304 Stainless steel		
Vacuum pump	Rotary vane vacuum pump		
Vacuum pressure	-0.1Mpa		
Power supply	AC110-220V, 50/60HZ		

Vacuum Hot Press Furnace Heated Vacuum Press Machine Tube Furnace

Item Number: KT-VTP

Introduction

Reduce forming pressure & shorten sintering time with Vacuum Tube Hot Press Furnace for high-density, fine-grain materials. Ideal for refractory metals.

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Hydraulic press	Working pressure: 0-30Mpa Travel distance: <50mm Pressure stability: ≤1MPa/10min Pressure meter: Digital pressure gauge Drive solution: Electric drive with standby manual drive
Vertical split furnace	Working temperature: ≤1150℃ Heating element:Ni-Cr-Al resistance wire with dipped Mo Heating speed: <15℃/min Hot zone length: 300mm Constant temperature zone: 100mm Controller: Touch screen with PID thermal controller Rated power: 2200W
Vacuum furnace tube	Tube material: Quartz tube(Optional Alumina/Nickel alloy) Tube diameter: 100mm(Optional 120/160mm) Vacuum sealing: SS flange with silicon O ring Flange cooling method: Inter layer water circulating cooling
Graphite pressing die	Die material: High purity graphite (Graphite must work under vacuum to prevent oxidation) Pressure rod diameter: 87mm Sleeve die size: 55mm OD/ 50mm Height Die inserts: OD22.8 x ID20.8 Pushing Rod: 12.7mmOD/40mm Height Other sizes die can be customer made
Vacuum pump setup	Rotary vane pump vacuum is up to 10-2 torr Turbo pump station vacuum is up to 10-4 torr
Electric power supply	AC110-220V, 50/60HZ

Spark Plasma Sintering Furnace Sps Furnace

Item Number: KTSP

Introduction

Discover the benefits of Spark Plasma Sintering Furnaces for rapid, low-temperature material preparation. Uniform heating, low cost & eco-friendly.

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Configuration	• Stainless Steel Chamber - Suitable for Controlled Inert Gas or Vacuum Condition • Sintering Press Unit • Sintering DC Pulse Generator • Vacuum Unit • Sintering Control Unit
Temperature controller	• Precision Eurotherm temperature controller is built in • Overshooting temperature is less than 5ºC at the feast heating rate • Temperature accuracy : < 0.1ºC
Hydraulic Press	• Manual operated hydraulic press to apply pressure. • Max pressure: 20 T • Digital Pressure gauge is built in with over-pressure alarm.
Vacuum Chamber	• Vertical vacuum Chamber • Inner Double Layers Stainless Steel Reflectors • Rotary Pump included
Dimension	• Power Supply :760 L X 460 W X 1820 H, mm • Furnace: 970 L X 720 W X 1400 H, mm

Model	KTSP-10T-5	KTSP-20T-6	KTSP-20T-10	KTSP-50T-30
Rated power	50Kw	60Kw	100Kw	300Kw
Output current	0-5000A	0-6000A	0-10000A	0-30000A
Input voltage	0-10V	0-10V	0-10V	0-10V
Rated temperature	2300℃			
Rated pressure	100KN	200KN	200KN	500KN
Sample size	Ø30mm	Ø50mm	Ø100mm	Ø200mm
Ram stroke	100mm	100mm	100mm	200mm
Ultimate vacuum	1Pa			

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