



株洲双菱科技有限公司
ZHUSHOU SHUANGLING TECHNOLOGY CO., LTD

雾化制粉 高温炉窑 热工装备研发制造

ATOMIZATION EQUIPMENT HIGH TEMPERATURE FURNACE INDUCTION HEATING EQUIPMENT



株洲双菱科技有限公司
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SLT

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国家级高新技术企业

National High-Technology Enterprise

中国核工业制造装备供货商

China Nuclear Power Industry Equipment Supplier

中国航天制造装备供货商

China Aerospace Equipment Supplier

中国国家重点实验室合作伙伴

China National Key Laboratory Partner



公司简介 / Company Introduction

株洲双菱科技有限公司，位于中国国家创新城市——湖南·株洲。株洲交通发达，火车可直达国内各大、中城市，距黄花国际机场仅30分钟车程。

双菱科技系国家级高新技术企业，以非标设备设计研发制造为主，是中国核电制造装备供货商、中国航天制造装备供货商、与国内多个国家重点实验室保持紧密合作关系，近年来专注于金属雾化制粉设备研制、生产，高温真空炉窑及钢管管件弯制等热工装备研发与制造。

双菱科技提供金属制粉工厂，硬质合金工厂，碳纳米管制备工厂等生产线交钥匙工程建设。

公司已通过ISO9001质量体系认证，拥有自营进出口权，主要产品已出口到新加坡，俄罗斯，日本，美国、埃及、意大利、台湾等多个国家和地区。

Zhuzhou Shuangling Technology Co., Ltd is located in Hunan Zhuzhou city, traffic is convenient, it takes only 30minutes to airport, there has train and airport which can reach each city directly.

Our company is National High-tech Enterprise and specialized in design and manufacture non-standard equipment. Now we have been the equipment supplier for China Nuclear Power Industry and China Aerospace. We have close cooperation with many State Key Labs. In recent years, SLT is specialized in research and manufacture metal powder atomization equipment, vacuum furnace, pipe bending machine and other induction heating equipments.

SLT provide turnkey projects of metal powder production line, cemented carbide production line, NdFeB magnet production line, Carbon Nano-tube production line and so on.

Our company has self import and export right, the products have been exported to many countries, such as Singapore, Japan, USA, Egypt, Indonesia, Russia, Taiwan area and so on.



SLT



中南大学校长黄伯云院士与汤新强先生
Mr. Tang Xinqiang and Dr. Huang Boyun
from China Central South University



德国粉末冶金专家与双菱探讨技术方案
Germany Powder Metallurgy Experts Technical
Communication with SLT engineers



俄罗斯代理商到访双菱
Russian Agents Visit SLT



中国3D打印专家史玉升博士导师到访双菱
China 3D printing Experts and Doctoral
Supervisor ShiYusheng Visit SLT

专利证书 Certificate of Invention Patent



高新技术企业及相关证书 National High-Tech Enterprise & Related Certificates





目录 Contents

小型雾化制粉实验设备 Small Lab Type Gas Atomization Equipment	06
3D打印金属粉末雾化制粉设备 3D Printing Metal Powder Atomization Equipment	07
非真空气雾化制粉设备 Antivacuum Gas Atomization Equipment	08
真空气雾化制粉设备 Vacuum Gas Atomization Equipment	09
铜铟镓锗 (CIGS) 等高纯粉体制粉设备 CIGS & High Purity Metal Powder Gas Atomization Equipment	10
贵金属雾化制粉设备 Precious Metal Powder Gas Atomization Equipment	11
钛粉 (难熔金属) 气雾化制粉设备 Ti6A Titanium Powder Gas Atomization Equipment	12
水雾化制粉设备 Water Atomization Equipment	13
铜粉水雾化成套设备 Copper Powder Water Atomization Line	14
粉体材料测试、定向开发服务 Various metal powder test, design and manufacture equipment	15
真空实验炉 Vacuum Lab Furnace	16
真空烧结炉 Vacuum Sintering Furnace	17
真空热压炉 Vacuum Hot Press Furnace	18
真空熔炼炉 Vacuum Melting Furnace	19
氢气高温 (钨钼) 烧结炉 High Temperature Hydrogen Sintering Furnace	20
旋转式粉末高温烧结炉 Rotary Metal Powder High Temperature Sintering Furnace	21
坩埚旋转式高温烧结炉 Crucible Rotation High Temperature Sintering Furnace	22
非标加热成套设备 Non-Standard Complete Set Heating Equipment	23
核电级中频加热弯管机 MF Pipe Bending Machine For Nuclear AP1000	24
硬质合金生产线 Cemented Carbide Production Line	25
晶须状碳纳米管生产系统 Crystal Whisker Carbon Nanotube Production Line	26
工业非标装备研发设计 Industrial Non-Standard Equipment Research and Design	27
设备发货出厂 Equipment Shipping Photos	28
双菱朋友圈 SLT Main Customers	29



小型雾化制粉实验设备

设备用途

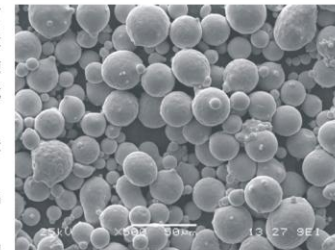
该成套设备主要适用于金属或金属合金等熔化 (可使用普通熔炼或真空熔炼) 后在雾化罐中制作成粉状 (或颗粒状) 物料。主要适用于高校、科研院所等使用。金属雾化制粉可根据粉末用途采用高压气体雾化或高压水雾化制作。

该设备同时适用于各高校、科研院所进行增材制造 (3D打印) 金属粉末制备的生产和研究。

该设备同时适用于各种不锈钢, 合金钢, 铜粉, 铝粉, 银粉, 陶瓷粉及钎焊粉等金属制粉研究与生产。

可根据用户要求定制1KG~10KG/炉。设备功率约30~120KW, 长*宽*高=3.0米*3.0米*3.5~6.5米。

实验型雾化制粉设备已获国家发明专利



Small Lab Type Gas Atomization Equipment

Main Application

The equipment is used for making metal powders (or granulates) in atomization chamber after metal or metal alloy melted (in air or vacuum). It is widely used in university and scientific research institutions. The customer can choose high pressure gas atomization equipment or high pressure water atomization equipment according to different powder application.

The equipment is widely used in atomization additive manufacturing metal powder (3D printing metal powder) and metal powder research or production in all institutes and universities.

This equipment is used for producing and researching various types of metal powder, such as a variety of stainless steel powder, alloy steel powder, copper powder, aluminum powder, silver powder, ceramic powder welding powder and so on.

For the capacity, 1-10kg capacity for choose according to customer's requirement.

Equipment power is about 30-120KW.

Equipment size L*W*H is 3.0m*3.0m*(3.5-6.5)m.

Our company small Lab type gas atomization equipment have got National Invention Patent.



3D打印金属粉末制粉设备

该设备采用高压气雾化进行金属制粉，所制备粉末具备粉末氧含量低，粒径小，粒度分布窄，球形度高，流动性好，松装密度高等优点。

该设备适用于各金属粉末制造企业及高校，科研院所进行3D打印金属粉末制备的生产和研究。

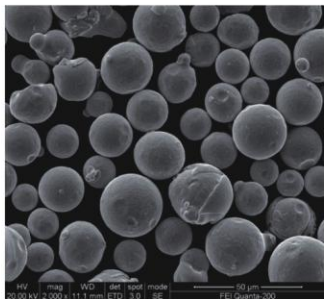
该设备同时可适应于各种不锈钢、高速钢、钴铬合金、合金钢、钛合金、铜粉及钎焊粉等金属制粉研究与生产。

设备产能：30~1000KG/炉。

设备功率及外型尺寸：设备功率约120~1000KW。

长*宽*高=6.0米*6.0米*（6.0~10.0）米。

3D打印用金属粉末制粉设备已获国家发明专利授权
并获得湖南省首台（套）重大技术装备奖励



3D Printing Metal Powder Atomization Equipment

This equipment adopts high pressure gas atomization to make metal powder, the powder has many advantages like low oxygen content, small particle size, narrow particle size distribution, better spherical shape, high apparent density. This equipment is suitable for all universities, institutes and companies to make researches or production 3D printing metal powder.

This equipment is suitable for production various types of powder such as a variety of stainless steel powder, high speed steel metal powder, Co-Cr alloy powder, steel alloy powder, titanium alloy powder, copper powder, welding powder and so on.

Equipment capacity: 30-1000KG/batch

Equipment power: 120-1000KW

Equipment size L*W*H: 6.0m*6.0m*（6.0-10.0）m

3D Printing Metal Powder Atomization Equipment have obtained national invention patent and Hunan Province first set important technical equipment award



该图片来源于网络

非真空雾化制粉设备

1、设备用途

该成套设备主要适用于在气体保护或普通大气条件下，将金属，陶瓷等非金属或金属合金熔化后在雾化罐中制作成粉状（或颗粒状）物料。

该装备相对真空雾化制粉装备投资小，运行成本低，主要适用于对氧增量控制要求不高的粉体制备。

2、设备产能：30KG~1000KG/炉。

3、设备占地面积（长*宽*高）：6米*6米*6~8米

Antivacuum Gas Atomization Equipment

1. Equipment application

This equipment is mainly used for making metal powder or granule in atomization chamber after metal or metal alloy be melted under the gas protection environment or common air environment.

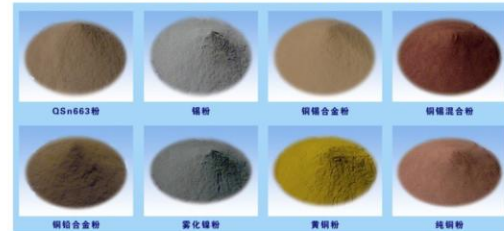
Compared with vacuum type gas atomization equipment, the antivacuum gas atomization equipment has the advantages of cheaper total price and lower running cost, and it is widely used for production the metal powder without high control requirement for the metal powder oxygen content increment.

2. Equipment capacity

30KG-1000KG/batch for choose.

3. Equipment cover area

Length*Width*Height: 6M*6M*6-8M



真空气雾化制粉设备

1、设备用途

该成套设备主要适用于物料经真空冶炼后在惰性气体保护下将金属、陶瓷等非金属或金属合金熔化后在雾化罐中制作成粉状（或颗粒状）物料。

该装备主要适用于对氧增量控制要求比较高的粉体制备，同时具备非真空制备粉体的功能。

2、设备产能：30KG~1000KG/炉。

3、设备占地面积（长*宽*高）：6米*7米*7~12米

Vacuum Gas Atomization Equipment

1.Equipment application

This equipment is mainly used for metal or metal alloy melting in vacuum and then atomization in atomization chamber under the gas protection environment to produce metal powder or metal granule.

The vacuum type gas atomization equipment is used for production the metal powder with high control requirement of oxygen content increment, at the same time, it own all powder production functions of antivacuum gas atomization equipments.

2.Equipment capacity

30KG-1000KG/batch for choose.

3.Equipment cover area

Length*Width*Height: 6M*7M*7-12M



铜铟镓硒 (CIGS) 等高纯粉体制粉设备

该设备采用高压气雾化进行高纯粉体制备，所制备粉末具备粉末氧含量低，粒径小，粒度分布窄，球形度高，流动性好，松装密度高，损耗低等优点。可制备纯度要求大于99.9999%的高纯粉体。

该设备主要适用于高纯稀有金属粉末制备的生产和研究。在铜铟镓硒（CIGS）粉体制备方面高纯效果尤为明显。

设备产能：30~250KG/炉或根据用户要求定制。



CIGS & High Purity Metal Powder Gas Atomization Equipment

This equipment adopts high pressure gas atomization to make high purity metal powder, the powder has many advantages like low oxygen content, small particle size, narrow particle size distribution, better spherical shape, high apparent density, low loss and so on. The system is quite special at production the high purity metal powder, it can atomization the metal powder with purity larger than 99.9999%.

This equipment is mainly used for research and production high purity metal powder. The equipment is especially used for high purity copper indium gallium selenide (CIGS) powder.

Equipment capacity: 30-250KG/batch or according to customer's requirements.





贵金属粉末制粉设备

该设备采用高压雾化进行贵金属粉体制备，所制备粉末具备粉末氧含量低，粒径小，粒度分布窄，球形度高，流动性好，松装密度高，损耗低等优点。制粉收得率高，基本无损耗。

该设备主要适用于金、银、铂、等贵金属及高纯稀有金属等粉末制备的生产和研究。

设备产能：根据用户要求定制。

Precious Metal Powder Gas Atomization Equipment

This equipment adopts high pressure gas atomization to make high purity metal powder, the powder has many advantages like low oxygen content, small particle size, narrow particle size distribution, better spherical shape, high apparent density, low loss and so on.

This equipment is mainly used for atomization metal powder like gold powder, silver powder, platinum powder and other precious metal powder and high purity rare metal powders.

Equipment capacity: According to customer's requirements.



EIGA钛粉雾化制粉设备

该设备采用高压雾化进行钛金属雾化制粉。雾化制粉过程采用无坩埚方式，粉末球形度好，纯度高。可广泛应用于航空航天、汽车、海洋船舶、医疗和国防工业等3D打印用钛、钛合金等难熔金属粉末材料制备。

该设备适用于金属粉末制造企业及高校，科研院所进行钛金属粉末制备的生产和研究。

设备产能：20KG/天，50KG/天。

设备功率及外型尺寸：设备功率约40~80KW。

长*宽*高=5.0米*5.0米*6.0~8.0米。

无坩埚雾化制粉设备已获国家发明专利



EIGA Titanium Powder Gas Atomization Equipment

The equipment adopts high pressure gas atomization method to make titanium powder and without crucible when melting. Powder has good spherical shape and high purity. The equipment is widely used in making 3D printing powder for aerospace, automobile, sea ship, medical, national defense industry and so on.

The equipment is used in making titanium alloy powder by metal powder factory, university, scientific research institutions.

Equipment Capacity: 20kg/day, 50kg/day

Equipment Power: 40-80KW

Equipment Size: L*W*H=5.0m*5.0m*6.0-8.0m

Our company no crucible gas atomization equipment have got National Invention Patent.

水雾化(水气联合雾化)制粉设备

1、设备用途

该成套设备主要适用于在气体保护或普通大气条件下，将金属或金属合金熔化后在雾化罐中采用高压水雾制作成粉状物料。

该装备运行费用少，制粉成本低，细粉率和球形度高，同时可适用于金，银，铂等贵金属的制粉生产与研究。

2、设备产能

实验型产能：5KG~30KG/炉。

生产型产能：30KG~1000KG/炉。

Water Atomization Equipment (Water&Gas Joint Atomization Equipment)

1. Main Application

This equipment is mainly used for making metal powder or granule in atomization chamber by high pressure water atomization method after metal or the metal alloy be melted under the gas protection environment or common air environment

The operating cost of machine and powder production cost are low. At the same time the machine is also used in production expensive metal powder such as gold powder, silver powder, platinum powder and so on.

2. Equipment Capacity

Capacity for lab: 5KG~30KG/batch

Capacity for production: 30KG~1000KG/batch



超细铜粉雾化制粉生产线

1、设备用途

该成套设备为制作超细铜粉的全套生产线，包含铜及铜合金粉、片状铜合金粉的雾化制粉，烘干还原，分级等全套工艺。我司可提供全套超细铜粉生产设备与生产工艺技术指导。

2、设备产能

A：500吨/年。

B：1000吨/年。

Superfine Copper Powder Atomization Line

1. Equipment application

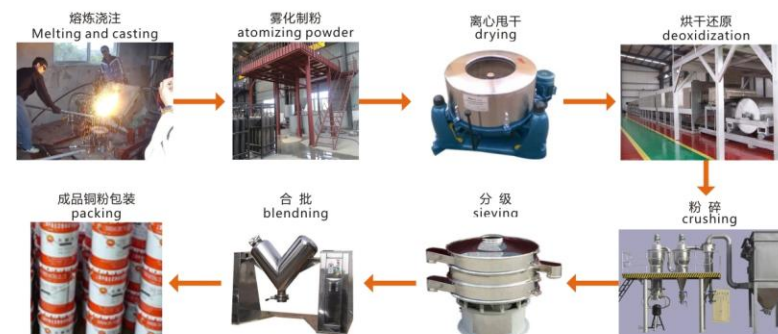
The complete set production line is used for making copper powders by water atomization method. The production line include copper powder and copper alloy powder atomization, drying, reduction, classify, mixing the whole set process craft and equipment. Our company can provide turnkey project-complete set copper powder production line and production technology guidance.

2. Equipment Capacity

A: 500 tons per year

B: 1000 tons per year

水雾化铜粉生产线工艺流程示意图 Copper powder water atomizing production technology process

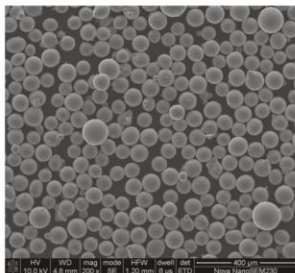


粉体材料测试、定向开发服务

承接各种粉末冶金用粉末、3D打印用金属粉末、激光熔覆用金属粉末、喷涂用粉末等粉体材料测试、定向开发服务。

Various metal powder test, design and manufacture equipment according to customers' requirements

Our factory will provide various types of metal powders test and customized development services, and they include different applications and different areas such as 3D printing, laser-cladding, painting and so on.



真空实验炉



1、适用范围和用途

主要用于各种金属、多晶硅铸锭、非金属材料在高温或超高温状态下的烧结实验和熔炼实验。

2、主要功能

2.1 能够进行3000℃以下真空或气氛状态下烧结和熔炼。

2.2 温度控制可调，并可在某一温度段保持恒温状态。

3、主机主要配置及技术要求

3.1 工作温度：1600℃~2200℃±10℃，最高使用温度：2800℃。

3.2 温度均匀性：≤±20℃(2200℃)。

3.3 极限真空度：根据工艺要求确定。

3.4 压升率：3Pa/h。

3.5 工作区尺寸：Φ100mm~Φ600mm×H450mm（根据用户要求确定）。

Vacuum Lab Furnace

1. Application

It is mainly used for sintering experiment and melting experiment for various metals, polysilicon ingot casting, nonmetal materials in high or super higher temperature.

2. Function

2.1 Sintering and melt material under vacuum or atmosphere situation under 3000℃.

2.2 Temperature can be adjusted and be kept at constant temperature.

3. Specifications

3.1 Work temperature: 1600~2200℃±10℃, Max temperature: 2800℃

3.2 Temperature uniformity: ≤±20℃(2200℃).

3.3 Ultimate vacuum: according to technological requirements

3.4 :Press rising rate:3Pa/h.

3.5 Wokspace size : Φ100mm~Φ600mm×H450mm(according to user' s requirement)



真空烧结炉

1. 适用范围和用途

主要用于硬质合金、铜钨合金、铝镍钴永磁、钕铁硼、碳纤维石墨化、碳碳复合材料、碳化硅制品等金属、非金属材料在高温或超高温状态下的烧结。

2. 主要功能

- 2.1 能够进行3000℃以下真空或气氛状态下烧结。
- 2.2 温度控制可调，并可在某一温度段保持恒温状态。

3. 主机主要配置及技术要求

- 3.1 工作温度：1600℃~2200℃±10℃，最高使用温度：2800℃。
- 3.2 极限真空度：根据工艺要求确定。
- 3.3 压升率：3Pa/h。
- 3.4 工作区尺寸：100mm~1000mm×1500mm（根据用户要求确定）。

Vacuum Sintering Furnace

1. Application

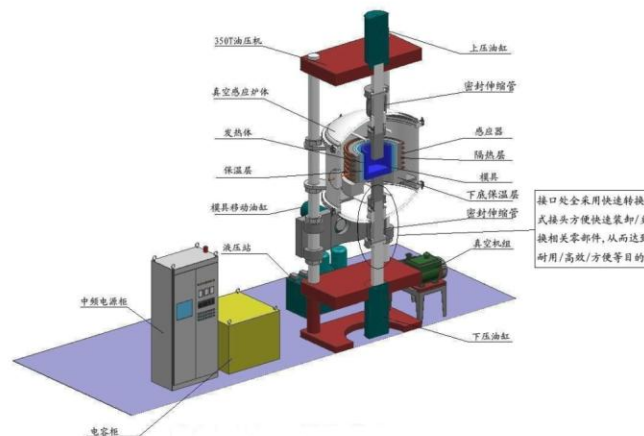
It is mainly used for sintering metal and nonmetal materials, such as cemented carbide, copper-tungsten alloy, AlNiCo magnet, NdFeB, carbon fiber graphitization, carbon composite materials, silicon carbide and so on.

2. Function:

- 2.1 Sintering material in vacuum or atmosphere under 3000℃.
- 2.2 Temperature can be adjusted and be kept at one stable level.

3. Specifications

- 3.1 Work temperature: 1600 ~ 2200℃ ± 10℃, Max temperature: 2800℃
- 3.2 Ultimate vacuum: according to technology requirements
- 3.3 Press rising rate: 3Pa/h
- 3.4 Workspace size: Dia100mm~Dia1000mm×H1500mm (according to user's requirement)



真空热压炉

Vacuum Hot Press Furnace

1. 设备用途及简要说明：教学、科研、生产用

主要用于非金属材料、碳碳复合材料、陶瓷材料和金属粉末材料等在真空或保护气氛条件下进行热压烧结生产及实验。

2. 主要功能

- 2.1 能够进行2200℃以下真空热压烧结。
- 2.2 能够进行2200℃以上保护气氛热压烧结。
- 2.3 精密控制系统（精密控制热压烧结温度、压力、压制速率）。
- 2.3.1 设上下压油缸各一个，油缸压紧速度可调，工作压力根据使用工艺要求并可调；
- 2.3.2 温度控制可调，并可在某一温度段保持恒温状态。

3. 主机主要配置及技术要求

- 3.1 工作温度：1600℃~2200℃±10℃，最高温度2800℃。
- 3.2 负载升温时间：≤10小时，负载降温时间：20小时。
- 3.3 温度均匀性：≤±20℃(2200℃)。
- 3.4 极限真空度：根据工艺要求确定。
- 3.5 压升率：3Pa/h。
- 3.6 工作区尺寸：Φ100mm~Φ600mm×H450mm（根据用户要求确定）。
- 3.7 压力：10吨~300吨（根据用户要求确定）。

1. Application

It is used for teaching, scientific research and production. It is mainly used for nonmetal materials, carbon composite materials, ceramic materials and metal powder materials hot-press sintering experiments in vacuum or in protection atmosphere.

2. Main functions

- 2.1 Hot-press sintering in vacuum below 2200℃
- 2.2 Hot-press sintering in protected atmosphere situation below 2200℃
- 2.3 Precise control system (precisely control temperature, press, pressing rate)
- 2.3.1 Up and down pressing oil cylinder, oil cylinder pressing speed can be adjusted, the press can be adjusted by user's requirement.
- 2.3.2 Temperature can be adjusted and be kept at one stable level.

3. Technical requirements

- 3.1 Working temperature: 1600℃ ~ 2200℃ ± 10℃, Max temperature: 2800℃
- 3.2 Loading temperature rising time: ≤10 hours, Loading temperature cooling time: 20 hours
- 3.3 Temperature uniformity: ≤±20℃(2200℃)
- 3.4 Ultimate vacuum: according to technological requirement
- 3.5 Press rising rate: 3Pa/h
- 3.6 Workspace size: Φ100mm~Φ600mm×H450mm (according to customer's requirement)
- 3.7 Press: 10~300 tons (according to customer's requirement)



真空熔炼炉

真空感应熔炼炉用于铁基、镍基、高温合金及其他精密合金、磁性材料的熔炼和精密浇注。

1. 特点：加热温度高，熔炼速度快，在真空条件下，熔炼过程可添加其他元素。
结构紧凑，布局合理，操作简单。
2. 炉体类型分为立式和卧式两种
3. 设备组成：由炉体、炉盖、感应器、熔炼坩埚、保温材料、加料箱、炉盖升降机构、真空机组、中频电源、电控柜、测温仪器组成。



Vacuum Melting Furnace

Vacuum melting furnace melt and precisely cast iron-based alloy, nickel-based alloy, high temperature alloy, precise alloy and magnet material.

1. Advantages: high heating temperature, fast melting speed, it can add more other materials when vacuum melting, compact structure, reasonable layout, easy operation.
2. Furnace type: Vertical type and Horizontal type.
3. Equipment composition: furnace body, furnace cover, inductor, melting crucible, thermal insulation material, material feeding tank, furnace cover lifting machine, vacuum pumps, medium-frequency power supply, electronic cabinet, temperature measurement instruments and so on.

型号 Model	额定容量 Rated capacity (KG)	极限真空度 Limit vacuum (Pa)	最高温度 Highest temperature (°C)	电源功率 Power (KW)	电源频率 Power frequency (Hz)
ZLP-5	5	6.67×10 ⁻³	1800~2200	50	4000
ZLP-10	10	6.67×10 ⁻³	1800~2200	50	4000
ZLP-25	25	6.67×10 ⁻³	1800~2200	100	2500
ZLP-50	50	6.67×10 ⁻³	1800~2200	100	2500
ZLP-100	100	6.67×10 ⁻³	1800~2200	160	2500
ZLP-200	200	6.67×10 ⁻³	1800~2200	250	2500
ZLP-300	300	6.67×10 ⁻³	1800~2200	300	1000

其他规格可按照要求定制。
Other type can be produced by user's requirements.



氢气高温（钨钼）烧结炉

1、适用范围和用途

主要用于钨、钼等难熔金属，合金材料或非金属材料在高温或超高温状态下的真空（或氢气等气氛保护）烧结或热处理。

2、主要功能

- 2.1 能够进行2400℃以下真空或气氛状态下烧结。
- 2.2 温度控制可调，并可在某一温度段保持恒温状态。

3、主机主要配置及技术要求

- 3.1 工作温度：1200℃~2400℃±15℃。
- 3.2 温度均匀性：≤±15℃。
- 3.3 极限真空度：根据工艺要求确定。
- 3.5 压升率：≤3.0Pa/h。
- 3.6 工作区尺寸：根据用户要求确定。

4、出料方式

根据用户要求可采用上出料方式或下出料方式。

5、可采用双菱高温旋转烧结专利（专利号：ZL 2012 2 0440362.9）以提供高温区的温度均匀性。

6、双菱科技可提供全套钨钼材料烧结工艺技术指导。



High Temperature Hydrogen Sintering Furnace

1. Application

This furnace is mainly used for sintering and heating tungsten, molybdenum and other refractory metals and non-metallic material in vacuum or in hydrogen and other gas protection environment.

2. Main functions

- 2.1 Sintering in vacuum or atmosphere situation below 2400℃
- 2.2 Temperatures can be adjusted and be kept at one level stable.

3. Technical requirements

- 3.1 Working temperature: 1200℃-2400℃±15℃
- 3.2 Temperature uniformity: ≤±15℃
- 3.3 Ultimate vacuum: according to technological requirement
- 3.4 Press rising rate: ≤3.0Pa/h
- 3.5 Workspace size: according to user's requirement
4. Discharge powder method: Up discharge or down discharge methods, according to user's requirement.
5. Technology of our company patent (patent number: ZL 2012 2 0440362.9) can improve temperature uniformity of high temperature area.
6. SLT company can provide whole technology guidance of tungsten and molybdenum sintering.



旋转式粉末高温烧结炉

该设备是由我司与北京有色金属研究总院共同研制的连续性旋转式高温烧结炉，可连续性生产，物料可在高温坩埚内通气氛旋转烧结，可对物料实施急冷处理。

1、适用范围和用途

主要用于各种稀土、金属粉末、非金属粉末材料在高温或超高温状态下的烧结生产和实验。通过物料在高温坩埚内的充分旋转培烧，可对粉末材料实行均匀的高温烧结处理，烧结完成的产品可自动落入成品斗并对物料进行急冷处理。

2、主要功能：能够进行2200℃以下真空或气氛状态下粉末物料的旋转加热烧结。

旋转式高温烧结炉已获国家发明专利

Rotary Metal Powder High Temperature Sintering Furnace

This equipment is researched and made by our company and General Research Institute for Nonferrous Metals together, it can produce continuously, material can be rotation sintering in high temperature crucible under atmosphere protection environment, and it can carry out fast cold treatment for the material.

1. Application

It is mainly used for several kinds of rare earth, metal powder, nonmetal powder materials sintering production and experiment in high temperature or super high temperature. The materials rotate and sinter in high temperature crucible, the powder can be uniformity and high temperature sintering. The finished products can fall into finished products chamber automatically, and take fast cold treatment for materials.

2. Main functions

The equipment can rotary heat and sinter powder materials in vacuum or atmosphere under 2200℃;
Our company rotary high temperature sintering furnace have got National Invention Patent.



坩埚旋转式高温烧结炉

该专利设备适应于真空及气氛保护下进行高温旋转烧结。

目前市场上存在的真空及气氛保护高温烧结设备主要是静态高温烧结，温度误差大，材料高温烧结时受热不均。

近年各种材料的高温烧结处理，对材料在高温段的温度均匀性越来越高，如超高温石墨化处理，金属合金烧结，钨钼材料烧结，金属粉末烧结，稀土材料烧结，磁性材料烧结，陶瓷材料烧结，航空航天特殊材料烧结等。

该高温炉可对炉内物料进行连续动态高温烧结，旋转速度可变频调速，最高温度可接近3000度。

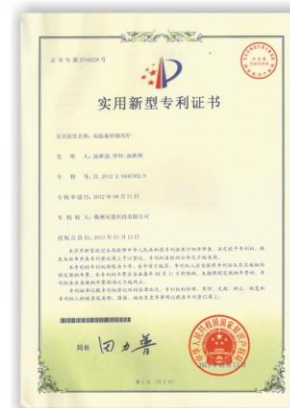
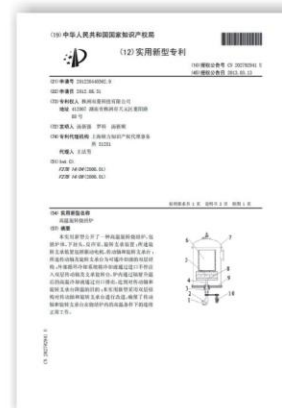
Crucible Rotation High Temperature Sintering Furnace

This equipment is suitable for rotation sintering in high temperature under vacuum and protection atmosphere.

At present, most of the vacuum or gas protection sintering furnace is static sintering in the market, the temperature error is larger, and the materials will be heated uneven during high temperature sintering.

In recent years, many kinds materials high-temperature sintering has higher requirement for temperature uniformity during high temperature section, such as ultra-high temperature treatment of graphite, metal alloy sintering, tungsten and molybdenum materials sintering, metal powder sintering, rare earth material sintering, magnetic materials sintering, ceramic materials sintering, aerospace special materials sintering and so on.

Our company's high-temperature furnace can achieve the materials in the furnace to be continuous dynamic sintered at high temperature, rotation speed can be frequency control, the max temperature can reach about 3000 centigrade.





非标加热成套设备

我司可根据用户要求,设计制作做各类非标加热成套设备,根据用户工艺要求及材料的特殊性,可采用感应加热,电阻加热等不同的加热方式。

Non-Standard Complete Set Heating Equipment

Our company can design all kinds of non-standard complete set heating equipment according to customers' requirements. According to the customers' process requirements and materials features, we will adopt different heating methods, induction heating, resistance heating and other heating method.



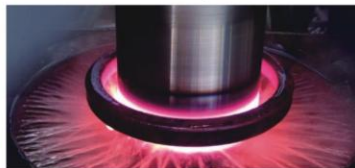
半固态加热设备
Semi-solid Heating Equipment



医废(固废)焚烧炉
Medical Waste(Solid Waste) Incinerator



熔炼炉
Electric Melting Furnace



轴类淬火设备
Crankshaft Quenching Equipment



核电AP1000用中频加热弯管机

核电AP1000用中频加热弯管机,系针对核电等特殊行业高端弯管定制开发装备,采用中频感应加热。将工件在局部加热的情况下进行弯曲。可弯制P11钢管、不锈钢钢管、碳钢管等高要求管件。

中国国家核电,中国核工业XX公司,浙江XX核电等核电装备制造企业均采用了我司弯管设备用于AP1000等核电装备的制造。

中频弯管机已获6项国家发明专利

MF Pipe Bending Machine for Nuclear AP1000

MF Pipe Bending Machine for Nuclear AP1000 is researched and manufactured aimed at the high grade pipe bending for the Nuclear and other special industry;it adopts medium frequency induction heating method. The pipes are bent by part heating. The machine can bend various shapes of pipes, such as P11 steel pipe, stainless steel pipes, carbon steel pipes and so on.

Our pipe bending machine for AP1000 are used to making nuclear power industry equipment by China National Nuclear Industry, China Nuclear Industry 23 Company, Zhejiang Nuclear Industry and so on.

Our company MF pipe bending machine have got 6 National Invention Patents.



硬质合金生产线

株洲作为中国最大的硬质合金生产基地，拥有大小硬质合金制造工厂数百家，中国第一块硬质合金即由株洲硬质合金集团公司生产制造。

株洲双菱科技承接硬质合金制造工厂交钥匙工程，并可由用户指派技术员在株洲硬质合金工厂进行设备操作培训及工艺技术培训。

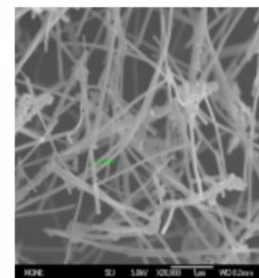
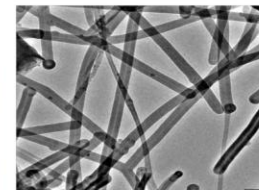
硬质合金具有很高的硬度、强度、耐磨性和耐腐蚀性，被誉为“工业牙齿”，用于制造切削工具、刀具和耐磨零部件，广泛应用于军工、航空航天、机械加工、冶金、石油钻井、矿山工具、电子通讯、建筑等领域。

Cemented Carbide Production Line

As China biggest cemented carbide production base, zhuzhou city has hundreds of cemented carbide factories, and the first piece carbide blade is made by ZhuZhou Cemented Carbide Group.

Our factory can offer turnkey project of cemented carbide production line and train our customer technology to operate production line in ZhuZhou Cemented Carbide Group.

Cemented carbides have high hardness, strength, wear resistance and corrosion resistance which is honoured as "industry tooth", used in manufacturing cutting tools, wear-resisting parts and so on. The products are widely used in war industry, aerospace aviation, machining, metallurgy, oil drilling, mine tools, electromunication, building and so on.



晶须状碳纳米管生产系统

碳纳米管生产系统主要由合成炉主体、投料系统、出料系统、包装系统组成，可实现连续化生产，单套设备年产量为30吨晶须状碳纳米管。

该系统所制备碳纳米管具有纯度和结晶度高，易分散等优点。可应用于锂离子电池、复合材料等领域。

Crystal Whisker Carbon Nanotube Production Line

The carbon nanotube production Line is composed of synthetic furnace, charging system, discharging system, packaging system and so on, it can continuous production, one set system production capacity can be 30tons crystal whisker carbon nanotubes per year;

The carbon nanotubes made by our system have many advantages: high purity, high crystallinity and easy to be dispersed in matrices.

It can be widely used for Lithium-ion battery industry, composite material industry and so on.



工业非标装备研发设计

双菱科技自成立以来一直从事非标装备的研发与制造，单独设立工业设计中心，主要致力于工业自动化非标装备的研发，设计，样机制造，同时外接非标装备的研发制造。

双菱技术团队创新设计能力强，专长于自动化机械设计，PLC，人机界面，变频伺服步进控制自动化设备研制，可按客户要求设计定做。

1. 根据用户提供基本思路及对设备的基本要求进行3维仿真设计。
2. 根据用户提供样机（包括实物或图片）进行3维仿真设计。
3. 根据双方确定设计思路和图纸进行样机制造。

Industrial Non Standard Equipment Research and Design

ZhuZhou ShuangLing Technology Co.,Ltd is engaged in non-standard equipment research and design from establishment. Now there is a industry design center which is aimed to automatic technology non-standard equipment research, design and sample machine manufacture. We also produce some custom non-standard equipment according to buyer's requirements.

SLT team has strong innovative design capability, and the team is specializing in automatic machine design, PLC, human-computer interface, servo stepper control automation equipment development. SLT team also can design and manufacture equipment according to user's requirements.

1. We can make 3D simulation design for machine according to user's requirement.
2. We can make 3D simulation design according to sample machine (machine or picture) provided by users.
3. We can manufacture sample machine according to design and drawings confirmed by user and our team.



设备发货出厂 Equipment Shipping Photos



SLT



双菱朋友圈

SLT Main Customers



国家核电



中国南车



中国能建核电制造公司



中南大学



上海大学



中国核工业二三建设有限公司



国防科大



燕山大学



北京有色金属研究总院



宁夏大学



中船集团



昆明贵金属研究所



中国铝业



华南师范大学



贵研铂业股份有限公司



华菱钢铁



昆明理工大学



有研稀土新材料股份公司



三一重工



武汉钢铁集团



广东先导稀材股份集团



莱钢钢铁



广西玉柴集团



核工业西南物理研究院



双菱朋友圈

SLT Main Customers



Singapore Institute of
Manufacturing Technology



中国化工橡胶株洲研究设计院



俄罗斯MOSINDUCTOR有限公司



湖南瑞华新材料有限公司



意大利ECHO, Research



株洲冶炼集团科技开发有限责任公司



伊朗 MODALE CO



长沙矿冶研究院有限责任公司



台湾光洋应用材料科技股份有限公司



株洲硬质合金集团有限公司



汉能控股集团

长沙精准粉末冶金材料科技公司



湖南航天新材料科技研究院



哈尔滨三地增材制造材料有限公司



湖南恒基粉末科技有限责任公司

安徽颖元农业科技有限公司