

# Weite

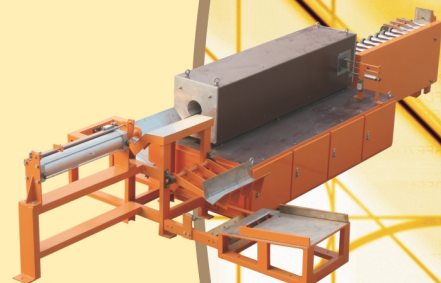


## 西安威特电力电子设备研究院

Weite Power Electronic Equipment Research Institute Xi'an

### 变频加热技术在铝镁铜及有色金属加工中的应用

Induction heating furnace for aluminum copper and other metal



## 西安威特电力电子设备研究院

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# Weite

# 威特

## 简介

### BRIEF INTRODUCTION OF WEITE

西安威特电力电子设备研究所，是开发区内专业从事变频加热设备研制开发的高新技术企业。以电力电子专业高级工程师技术人员为核心。并有多位冶金材料、热加工方面的专家，吸收、借鉴国内外先进技术与工艺不断开发出适合铝镁铜钛及有色金属加工应用的变频电源及适用不同加工工艺的加热设备。在铝镁型材及有色金属型材加工行业用于棒材挤压前梯度加热，最新采用专利技术设计的梯度加热感应器，与传统感应加热工艺技术相比，节能30%。燃气预热后变频梯度加热炉、降低燃气加热温度，总费用低于燃气加热。模具快速加热。铝及有色金属合金铸造及压铸领域用于金属熔化，熔液保温以及熔液电磁搅拌，与燃油、燃煤、燃气以及电阻炉加热相比，变频加热耗能低，烧损小，无环境污染，加热温度精确，可实现温度闭环控制，有效提高产品质量，是铝镁铜钛及有色金属加工理想的加热方式。

我们始终奉行用户第一，信誉第一，质量第一。依靠先进的生产技术，具有丰富经验、技能、知识的员工及现代化的管理手段，使之不断改革创新，不断完善，用户至上的原则，在威特就是你只需告诉我：

**需要加热什么，其他的事威特替你做。**



# Weite

Weite Electronic Equipment Research Institute of Xi'an is a hi-tech corporation specialized in research and development of induction heating equipments. Taking the senior engineering technical personnel of electric power and electronic profession as core, with many experts of metallurgy and thermal processing, the institute absorbs and borrows ideas from the advanced technology and technics at home and abroad to continually develop out the variable frequency power supply suitable for processing and application of aluminum and other metal and heating equipments applicable to different processing technic. It is used in heating rods before squeeze and mold flash heat in the processing industry of aluminum section material and non-ferrous metal section material and used in melting of metal, thermal insulation as well as electromagnetic agitation of solution in aluminum and non ferrous metal alloy casting and compression casting realms. Compared to burning-oil, burnt-coal, burnt gas as well as the resistance furnace heating, frequency conversion heating is low in dissipation of energy, small in burning loss and accurate in heating temperature without environmental pollution, realizable in closed-loop control of temperature and effective in improving the quality of products, which is a perfect heating mode for processing aluminum and non-ferrous metals.

We all along pursue user first, credit first, quality first and rely on the advanced production technology, staff with rich experience, skill and knowledge and modern management means to continually reform and innovate and to continually perform perfection. The principle of user first in Weite is that you only need to tell me what to do:

**What you need to heat. Weite will do other things for you.**



用于中国印钞造币总公司成都公司  
Chengdu banknote printing company of China  
banknote printing and minting corporation



用于苏州罗普斯金铝业公司  
Suzhou Luopusijin Aluminum Industry Co., Ltd.



用于昆山捷安特轻合金科技有限公司  
Giant-alloyind Group Company



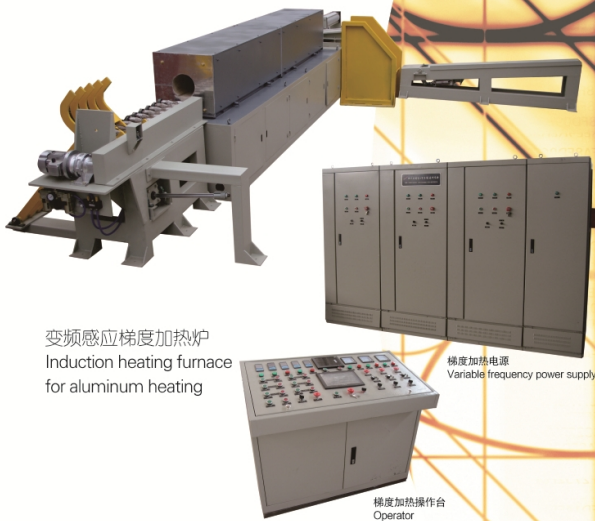
燃气预热后梯度加热炉用于广东和胜工业铝材有限公司  
Guangdong Hesheng Aluminum Industry Co., Ltd.

## 变频加热原理

### Frequency conversion heating principle

变频加热是通过变频电源将380V50Hz工频电流，经变频输出为合适频率的电流，将该电流输入加热炉中，使炉体产生交变磁场，欲加热的金属材料处于交变磁场中，使其自身产生电流而发热，因而热效率高，耗能低。

Induction heating is to use industrial-frequency current of 386V 50Hz of variable frequency power supply to generate an output of electric current with suitable frequency via frequency conversion and to import the current into the heating furnace to make furnace body generate an alternating magnetic field. The metallic material to be heated is situated in the alternating magnetic field to make itself generate an alternating current to heat itself. Thus it is high in thermal efficiency and low in dissipation of energy.



## 变频加热设备优势：

### Advantage of the induction heating equipment

1、变频加热电源频率选择范围可由工频至高频波段，可根据加热工件规格选择合适的频率，电效率=98%，节能效果明显。

The induction heating supply frequency can be selected from industrial frequency to high frequency band. The appropriate frequency can be selected according to the specs of the heated workpiece. The electrical efficiency is higher than 98%, thus energy-saving effect is evident.

2、能量输出稳定，加热温度易于控制，一致性好，提高加热质量。

Energy output is stable and heating temperature is easy to control, with good consistency, improving the heating quality.

3、透热性好，合适频率的交变电场对于有色金属工件具有很好的渗透性，非传导加热，因而工件表面温差小，提高产品质量。

Diathermancy is good. The magnetic field of suitable possesses the corking permeableness to non-ferrous metal workpiece with non-conduction heating. Thus temperature difference is small between surface and core, improving the quality of products.

4、变频加热设备即用即开，使用方便，无附加能耗。

The induction heating equipment is turned on when used, convenient for use, without additional dissipation of energy.

5、无环境污染，工件氧化少，节省原材料。

Without environmental pollution, the workpiece oxidation is little, saving the raw material.

6、测温系统闭环加热功率，每一个料均能在设定温度下加热，温度精度高，加热温度梯度可根据不同的材料及挤压工艺调节，达到高精度的等温挤压。

With heating rate of thermometry system closed loop system, every material can be heated under the setting temperature with high temperature precision. The heating temperature gradient can be adjusted according to different material and extrusion process to reach isothermal extrusion of high precision.

7、内加热方式，综合能耗低，优于燃油，燃煤，燃气等外加热方式。

The internal heating mode is low in comprehensive energy consumption, overmatching fuel, coal and gas and other heating types.

8、无环境污染，工件氧化少，延长模具使用寿命。

Without environmental pollution, the workpiece oxidation is little, prolonging the service life of mold.

9、模具加热速度快，仅为传统加热方式耗时的五分之一，每一个模具均能在设定温度下加热，温度精度高。The mold heating speed is fast, only 1/5 of time-consumption of traditional heating type. Every mold can be heated under the setting temperature with high temperature precision.

10、熔化炉具有电磁搅拌作用，熔体化学成分均匀。

The fusion furnace possesses electromagnetic agitation action and the chemical composition of fusant is homogeneous.



φ310mm铝棒梯度加热炉用于甘肃宏达铝业



## 威特铝棒变频梯度加热炉

### Weite induction gradient heater for bar material

BPS系列铝棒镁棒铜棒及有色金属变频加热炉是我所根据铝型材及有色金属加工挤压特点开发的新产品,采用变频加热原理,温度自动闭环控制。与其它加热方式相比具有加热温度精确、能耗低、无环境污染、操作简便、自动化程度高、劳动强度低等优点。可根据用户挤压工艺及铝棒规格设计变频梯度加热炉、单棒多温区变频梯度加热炉、燃气预热后单棒变频梯度加热炉。温度控制精确,提高型材质量,提高挤压效率20%以上。

BPS series aluminum bar and non-ferrous metal induction heater is a new product developed by our institute according to the processing squeeze feature of aluminum material and non-ferrous metal. It adopts the frequency conversion heating principle and automatic closed-loop control of temperature. Compared with other heating types, it possesses merits of accurate heating temperature, low dissipation of energy, simple maneuverability, high automatization degree and low labor intensity and so on.

特点: Feature:

\*加热炉即用即开 The heater is turned on when used.

\*自动加热 Automatic heating

\*自动闭环控制加热温度,可实现高精度梯度加热

Heating temperature by automatic closed-loop control can realize the high precision gradient heating.

\*加热保温加热,脉动式加热,均温性更佳

Heating-thermal insulation-heating, panting type heating is better in temperature equalization feature.

\*自动进料、出料 Automatic feed and discharge

\*出料自动进入挤压机 Discharge automatically enters into the extruder



变频多温区梯度加热炉  
Induction Multi-temperature Zone Gradient Heating machine



燃气预热后单棒多温区梯度加热炉  
Gas preheating Induction Multi-temperature Zone Gradient Heating machine

## 铝棒变频加热设备技术参数

### Technical parameters of aluminum bar induction heating equipment

挤压机 Extruder	变频加热炉型号 Frequency conversion heating furnace type	功率 (kw) Power (kw)	加热温度 (°C) Heating temperature (°C)	加热节拍 (分) Heating Tempi (minute)	耗电量 (电/吨铝) Power consumption (kilowatt-hour)/ton aluminum
550T	BPS-100	100	350-530	1-1.5	210-260
880T	BPS-160	160	350-530	1.5-2	210-260
1350T	BPS-250	250	350-530	2-2.5	210-260
1800T	BPS-350	350	350-530	2-2.5	210-260
2500T	BPS-500	500	350-530	3-4	210-260
3600T	BPS-750	750	350-530	5-6	210-260
5500T	BPS-1500	1500	350-530	8-10	210-260
10000T	BPS-3000	3000	350-530	8-10	210-260
16000T	BPS-4000	4000	350-530	8-15	210-260

注: 1、以上参数仅供参考,供货时根据用户加热工艺要求设计。

Note: 1. The parameters mentioned-above are only for reference; the equipment shall be designed & supplied according to the heating process requirements of the client.

2、适用于铝镁合金或镁棒加热,镁加热炉相同挤压机加热炉功率约为铝加热炉功率的60-80%。  
2. Available for heating of aluminum magnesium alloy or magnesium stick.

## 铜棒变频加热设备技术参数

### Technical parameters of the copper bar induction heating equipment

加工量 Amount of Machine (吨/小时) (Ton/hour)	加热炉型号 Type of heating furnace	功率 Power ( kw )	加热温度 Heating temperature ( °C )	耗电量 Power consumption ( 度电/吨铜 ) (kilowatt-hour/ton of copper)
0.5	BPS-100	100	700-900	158-185
0.8	BPS-160	160	700-900	158-185
1.2	BPS-250	250	700-900	158-185
1.6	BPS-350	350	700-900	158-185
2.5	BPS-500	500	700-900	158-185
3.5	BPS-750	750	700-900	158-185
5.0	BPS-1000	1000	700-900	158-185
10	BPS-2000	2000	700-900	158-185
15	BPS-3000	3000	700-900	158-185

注: 1、以上参数仅供参考,供货时根据用户加热工艺要求设计。

Note: 1. The parameters mentioned-above are only for reference; the equipment shall be designed & supplied according to the heating process requirements of the client.

2、钛加热加工量为铜的0.7倍,银加热加工量为铜的1.7倍,金加热加工量为铜的3倍。

2. The amount of hot work of titanium is 0.7 times that of the copper, the amount of hot work of silver is 1.7 times that of the copper; the amount of hot work of gold is 3 times that of copper.



## 不同加热方式能耗对比

Comparison between different heating modes in terms of energy consumption

加热物 Heating	加热方式 能耗 Heating Mode Energy Consumption	变频加热 Weite induction heating Equipment	电阻式加热 electrical resistance heating	原煤 Raw coal	燃油 Fuel oil	天然气 Natural gas
一吨铝 加热 450度 Heating a ton of Aluminum to 450°C	燃料量 Charge of fuel	210-260度电 210-260 kilowatt hours	500度电 500 kilowatt hours	150公斤 150KG	65公斤 65KG	30-50立方 30-50cu.m.
	燃料单价 Unit fuel price	0.8元/度电 0.8 yuan/ kilowatt hour	0.8元/度电 0.8 yuan/ kilowatt hour	0.8元/公斤 0.8 yuan /KG	7.5元/公斤 7.5 yuan /KG	3.5元/立方 3.5 yuan/ cu.m.
	费用 Cost	190元 190 yuan	400元 300 yuan	120元 120 yuan	487元 487 yuan	105元 105 yuan
一吨铜加 热750度 Heating a ton of Aluminum To 750°C	燃料量 Charge of fuel	160度电 160 kilowatt hours	375度电 375 kilowatt hours	100公斤 100KG	43公斤 43KG	35立方 35 cu.m.
	燃料单价 Unit fuel price	0.8元/度电 0.8 yuan/ Kilowatt hour	0.8元/度电 0.8 yuan/ kilowatt hour	0.8元/公斤 0.8 yuan /KG	7.5元/公斤 7.5yuan/KG	3.5元/立方 3.5 yuan/ cu.m.
	费用 Cost	128元 128 yuan	300元 300 yuan	80元 80 yuan	322元 322 yuan	130元 130 yuan

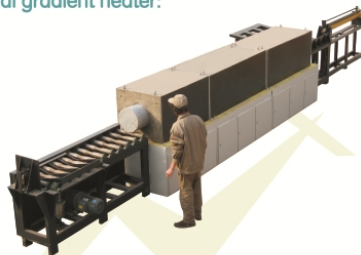


威特变频梯度加热炉用于甘肃宏达铝业

## 威特变频梯度加热炉优点：

### Merits of Weite induction heating bar material gradient heater:

- 1、变频加热电源电效率=98%，节能效果明显。  
Electrical efficiency of the Weite induction heating power supply=98%. Energy-saving effect is distinct.
- 2、能量输出稳定，加热温度易于控制，一致性好，提高加热质量。  
Energy output is stable and heating temperature is easy to control, with good consistency, improving the heating quality.



- 3、透热性好，合适频率的交变电场对于有色金属工件具有很好的渗透性，非传导加热，因而工件表面温差小，提高产品质量。  
Diathermancy is good. The magnetic field of suitable possesses the corking permeableness to non-ferrous metal workpiece with non-conduction heating. Thus temperature difference is small between surface and core, improving the quality of products.



自动上料机构

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- 4、变频加热设备即用即开，使用方便，无附加能耗。  
The induction heating equipment is turned on when used, convenient for use, without additional dissipation of energy.



自动上料机构

Without environmental pollution, the workpiece oxidation is little, saving the raw material.

- 6、测温系统闭环制加热功率，每一个料均能在设定温度下加热，温度精度高，加热温度梯度可根据不同的材料及挤压工艺调节，达到高精度的等温挤压。  
With heating rate of thermometry system closed loop system, every material can be heated under the setting temperature with high temperature precision. The heating temperature gradient can be adjusted according to different material and extrusion process to reach isothermal extrusion of high precision.

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- 7、炉衬采用新兴材料与工艺，保温好，绝缘好，可靠性高。  
The furnace lining adopts new material and technics with good thermal, good insulation and high reliability.

The furnace lining adopts new material and technics with good thermal, good insulation and high reliability.

- 8、梯度加热温差可根据不同工艺参数调节。该性能优于进口设备。  
The gradient heating temperature difference can be adjusted according to different technological parameters. The performance surpasses the imported equipment.



配自动上下料机构梯度加热炉

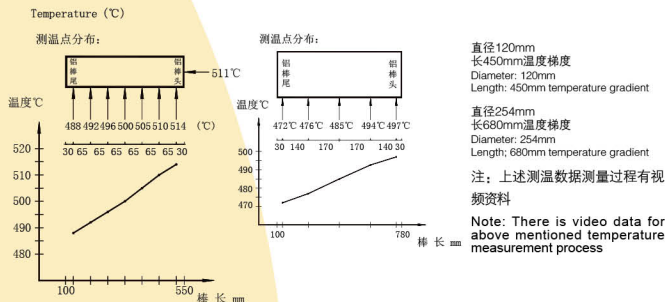
## 燃气预热后变频梯度加热炉能耗指标

### ENERGY CONSUMPTION INDICATORS FOR VARIABLE FREQUENCY INDUCTION GRADIENT HEATING

初始温度℃ Initial temperature℃	最终加热温度 Final heating temperature℃	最大温度梯度 Temperature gradient℃	加热时间 Heating time	耗电量 (度电/吨铝棒) Power consumption (kilowatt hour/aluminum bar)
380	500	100	1-2分钟/根 1-2 minutes/bar	22
400	500	100	1-2分钟/根 1-2 minutes/bar	20
425	500	70	1-2分钟/根 1-2 minutes/bar	17
450	500	50	1-2分钟/根 1-2 minutes/bar	15
470	500	30	1-2分钟/根 1-2 minutes/bar	9

## 变频梯度加热后铝棒测温曲线

### ALUMINUM BAR TEMPERATURE MEASUREMENT CURVE AFTER VARIABLE FREQUENCY INDUCTION GRADIENT HEATING



## 不同能耗燃气炉配变频梯度加热炉总能耗费用对比

(工艺温度 500℃)

加热方式	不同能耗 燃气炉 分项加热 费用	不同能耗燃气炉		
		55m³ 燃气 / 吨铝棒	40m³ 燃气 / 吨铝棒	25m³ 燃气 / 吨铝棒
纯燃气加热到500℃	燃气加热费用	55m³ × 3.9元/m³ = 215元	40m³ × 3.9元/m³ = 156元	25m³ × 3.9元/m³ = 98元
燃气预热到450℃后梯度加热到500℃	燃气预热费用	55m³ × 85% × 3.9元/m³ = 182元	40m³ × 85% × 3.9元/m³ = 133元	25m³ × 85% × 3.9元/m³ = 83元
	梯度加热费用	15度电/吨铝 × 0.8元/KWH = 12元	15度电/吨铝 × 0.8元/KWH = 12元	15度电/吨铝 × 0.8元/KWH = 12元
	混合加热总费用	182元+12元=194元	133元+12元=145元	83元+12元=95元
混合加热比纯燃气加热节省费用		215元-194元=21元/吨铝	156元-145元=11元/吨铝	98元-95元=3元/吨铝

### 燃气预热后梯度加热节能减排降低总加热费用的原理:

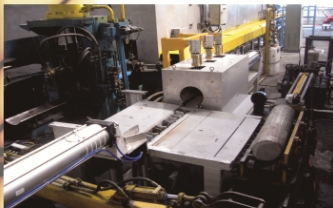
1. 铝棒温度越高, 单位铝棒燃气消耗量越大, 减少燃气炉高温段燃气消耗, 降低铝棒燃气加热温度10%, 可减少15~20%燃气消耗。
2. 梯度加热由于铝棒头部温度高、尾部温度低, 燃气加热降低10%的温度、梯度加热仅需5%的电耗。  
例如: 原燃气加热铝棒500℃, 现加热到450℃, 燃气加热降低10%温度, 梯度加热500℃, 梯度温度50℃, 则铝棒头部500℃、尾部450℃, 平均升温25℃, 即升温5%, 所以只消耗5%电能。
3. 梯度加热5%的电能消耗即可完成原燃气炉需15~20%的燃气才能完成的高温段加热, 故总费用低于纯燃气加热。

## 不同规格铝棒燃气预热梯度加热炉技术参数

### TECHNICAL PARAMETERS FOR GRADIENT HEATING OF VARIOUS ALUMINUM BARS

铝棒直径 (mm) Aluminum bar diameter	最终加热温度℃ Final heating temperature℃	温度梯度℃ Temperature gradient℃	功率 KW Power KW	加热时间 (分钟) Heating time (minutes)
100	500	0-80	20-30	0.5-1.5
120	500	0-80	30	0.5-1.5
150	500	0-80	40	0.5-1.5
178	500	0-80	50	1-2.5
203	500	0-100	60	1-2.5
254	500	0-100	80	1-3
305	500	0-100	100	1-3
350	500	0-100	150	2-5
406	500	0-100	200	4-6
大于 406 More than 406				

建议采用全变频加热方式  
It is proposed to adopt all variable frequency heating



燃气预热后变频梯度加热生产  
Gas preheating Induction Multi-temperature Zone  
Gradient Heating machine



变频梯度加热炉  
Induction Multi-temperature Zone Gradient Heating  
machine

## 西安威特变频梯度加热炉提高挤压效率效益计算

### Induction Gradient Heating Improves Extrusion Efficiency and Increases Profit

以工业铝型材生产厂家通常计价方式:

型材价格: 铝棒价格+3000-5000元

一吨铝棒价格: 12000元

生产一吨铝材产值:  $12000+3000=15000$ 元

毛利润: 3000元

人工及管理费用: 1150元

非加热电费: 200元 (包括: 挤压、照明等综合用电)

加热燃料费: 150元

纯利润: 1500元

利润率:  $1500 / (12000+1150+200+150) = 11.1\%$

### 使用威特变频梯度加热炉后, 梯度加热铝棒提高挤压效率20-30%

相同时间和工人数, 可生产型材产值:

$12000 \times 1.2 + 3000 \times 1.2 = 18000$ 元

毛利润:  $3000 \times 1.2 = 3600$ 元

人工及管理费用: 1150元

非加热电费: 200元 (包括: 挤压、照明等综合用电)

加热电费: 250元

纯利润: 2000元

利润率:  $2000 / (14400+1150+200+250) = 12.5\%$

利润率提高:  $(12.5\% - 11.1\%) / 11.1\% = 12.6\%$

纯利润增加:  $(2000 - 1500) / 1500 = 33\%$

综上所述, 普通加热方式产生1500元利润的生产时间, 梯度加热可产生利润2000元, 在不增加挤压设备及人员的情况下, 即可提高产量, 增加纯利润33%。

If the net profit per ton of aluminum material by common heating mode is RMB 1000 yuan, the net profit after gradient heating is RMB 1330 yuan, the increased profit is RMB 330 yuan.

威特

产品

PRODUCTS OF WEITE

## 威特 MGT—大型模具快速预热加热炉

### Weite MGT—mold high speed heating furnace

采用变频加热原理, 使模块自身产生交变电流发热, 热效高、加热均匀, 表心温差小, 无表面氧化。采用自动控温设计, 脉动式加热, 加热温度精确, 延长模具使用寿命, 工作时即用即开, 一般模具10—20分即可加热至工作温度。特大模具30—60分可升温到300—400°C。

It adopts the induction heating principle to make the module itself generate the alternating current to glow with high thermal efficiency, homogeneous heating, small temperature difference between surface and core, without surface oxidation. It adopts automatic temperature control design and panting type heating with accurate heating temperature to prolong mold service life. It is turned on when used on the job. General mold can be heated to operating temperature in 10-20 minutes. The outside mold can be heated up to 300-400°C in 30-60 minutes.



Weite

### MGT—模具快速加热炉技术参数:

#### Technical Specification of MGT—Mold Fast-Heating Furnace:

挤压机 Extrusion Press	加热炉型号 Model of the fast-heating furnace	功率 (kw) Power (kw)	加热温度(°C) Heating Temperature (°C)	加热时间 (分) Heating Time(Min)	耗电量 Power Consumption KWh/piec
550T	MGT-20	20	300-480	10	2度电/个
880T	MGT-20	20	300-480	15	2度电/个
1250T	MGT-30	30	300-480	25	4度电/个
1800T	MGT-50	50	300-480	40	10度电/个
2500T	MGT-80	80	300-480	60	100-140度电/吨
3600T	MGT-100	100	300-480	90	100-140度电/吨
5500T	MGT-160	160	300-480	150	100-140度电/吨
10000T	MGT-500	500	300-480	300	100-140度电/吨
16000T	MGT-850	850	300-480	300-480	100-140度电/吨



## 威特铝及有色合金铸造压铸熔化保温搅拌炉

### Weite aluminum and non-ferrous alloy casting compression casting molten thermal insulation rabbling furnace

熔化速度快，元素烧损率低，熔液温度易于控制，炉体本身具有电磁搅拌功能，熔体化学成分均匀。高质量的溶液是高质量铸件的有效保障。

It is fast in the molten speed, low in the burnt loss ratio of element and easy to control in solution temperature. The furnace itself possesses the electromagnetic agitation function with homogeneous chemical composition of fusant. The high quality solution is a powerful indemnification of high quality cast.

#### 压铸专用熔化保温一体炉

##### The furnace integrating special fusion of compression casting and thermal insulation

根据压铸工艺要求设计的熔化保温一体炉，由熔化区、保温区构成，熔化区的铝液自动进入保温区待用，炉体本身具有电磁搅拌功能，铝液化学成分均匀。铝液质量好，温度易于控制。

The furnace integrating fusion and thermal insulation designed according to the requirement of extrusion process is formed by fusion zone and temperature holding section. The aluminum solution of fusion zone automatically enters into the temperature holding section for ready-use. The furnace itself possesses the electromagnetic agitation function to make chemical composition of aluminum solution become homogeneous. The aluminum solution is good in quality and easy to control in temperature.

##### 熔体电磁搅拌装置，由可控硅变频电源及根据不同炉体形式设计的感应器组成。

The fusant electromagnetism stirring device is formed by the controllable silicon variable frequency power supply and inductor designed according to different furnace body.

#### 电磁搅拌优势

##### Electromagnetic agitation advantage:

- 熔体化学成分均匀。
- Homogeneous chemical composition of fusant.
- 具细化晶粒作用。
- Possessing the action of refining grain.
- 非接触搅拌，无污染。
- Non-contact stir, no pollution.
- 温度均匀，温差小于10°C。
- With temperature equalization, temperature difference is less than 10°C.
- 缩短熔炼时间。
- Shortening the smelting time.
- 减少氧化渣形成。
- Reducing the oxidation formation



# 威特

# 业绩

## PERFORMANCE OF WEITE

威特凭借先进的技术，为西安航空发动机集团配套变频加热设备，为国产大型军机生产基地落户西安做出贡献，为西安重型机械研究所配套加热设备填补了国内空白，为沈阳东基集团公司开发的铜、铝、钛多种复合材料变频加热设备为国内首创。

By right of the advanced technique, Weite makes contribution for matching the frequency conversion heating equipment of Xi'an Aeroengine Group and settling of production base of domestically produced large avion, fills up domestic blank for matching the heating equipment of Xi'an Heavy Machinery Institute and innovatively develops the copper, aluminum, titanium manifold composite material frequency conversion heating equipment for Shenyang Dongji Group Corporation.

在铝铜型材加工行业，已为国内多家大型铝铜型材加工企业提供高质量的变频铝铜棒加热炉和模具快速加热炉。

In aluminum material processing industry, Weite has already provided the high quality induction aluminum and copper bar heater and mold high speed heating furnace for many domestic large aluminum material processing corporations.

经威特变频加热炉生产的铝型材除大量应用于建筑行业外，已应用于德国奔驰汽车的减振系统，美国悍马汽车保险杠，航空航天器材以及特种弹药外壳等。

The aluminum extruded sections produced by Weite induction heater is not only applied to architecture industry, but also applied to German Benz pitching stabilization system, American Hummer bumper, aerospace equipment as well as special ammunition crust and more.

为中国印钞造币成都印钞公司提供先进的金、银加热设备，为奥运奖牌制造高纯度材料。

The weite induction furnace to make gold and silver for Olympic Game medal in Chengdu banknote printing company of China banknote printing and minting



中国印钞造币成都印钞公司金银精炼厂  
Chengdu banknote printing company of China  
banknote printing and minting corporation



西安航空发动机集团公司  
Xi'an Aeroengine Group Company



西安重型机械研究所  
Xi'an Heavy Machinery Institute



西航铝业有限公司  
Xihang Aluminum Industry Co., Ltd.

#### 威特棒料变频梯度加热炉生产使用

Weite induction gradient heater for bar material



310mm铝棒变频梯度加热炉用于甘肃宏达铝业公司  
310mm Aluminum Bar Frequency Conversion Induction Gradient Heating Furnace



254mm铝棒变频梯度加热炉  
254mm Aluminum Bar Frequency Conversion Induction Gradient Heating Furnace



254mm铝棒热剪后变频梯度加热炉用于盛达光亮铝业公司  
Frequency Conversion Gradient Heating Furnace for 254 mm Aluminum Bar after Hot Shearing



254mm铝棒变频梯度加热炉用于新马铝业公司  
254mm Aluminum Bar Frequency Conversion Induction Gradient Heating Furnace



228mm镁棒变频梯度加热炉用于南京云海特种金属有限公司  
228mm Magnesium Bar Frequency Conversion Induction Gradient Heating Furnace



350mm铝棒变频梯度加热炉  
350mm Aluminum Bar Frequency Conversion Induction Gradient Heating Furnace



228mm铝棒变频梯度加热炉配有线锯  
228mm Aluminum Bar Frequency Conversion Induction Gradient Heating Furnace with On-line Saw



254mm铝棒变频梯度加热炉用于天津银禧铝业  
254mm Aluminum Bar Frequency Conversion Induction Gradient Heating Furnace



228mm铝棒变频梯度加热炉用于广东新会铝业铝材有限公司  
Induction gradient Heating Furnace after Gas Preheating by Robot Transmission



金棒变频感应加热炉用于长城贵金属公司  
Gold rod frequency conversion induction heating furnace



228mm铝棒变频梯度加热炉用于捷安特轻合金科技有限公司  
Induction Gradient Heating Furnace after Gas Preheating



双工位变频梯度加热炉用于河北山山铝业公司  
Two parallel induction gradient heating furnaces





可配套长棒料加热剪切机构  
The deliver machine of long aluminum bar



可配套用于燃气加热后变频梯度加热  
The clipping machine of hot aluminum bar



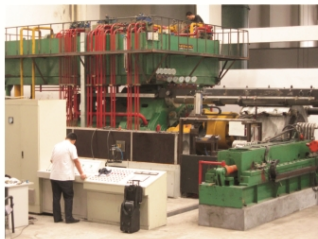
可配套热后梯度加热  
The clipping machine of hot aluminum bar



在西安航空发动机集团加热炉调试中  
Induction-heated furnace in debugging



加热铝棒出炉铝棒直径350毫米  
Tapping of hot aluminum bar with 350 mm diameter



1000KW铝棒加热炉供4000T挤压机  
Aluminum bar in heating



变频铜加热炉  
Induction heating furnace for copper bar



变频板坯加热炉  
Induction heating furnace for titanium heating



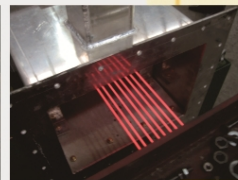
变频不锈钢加热炉  
Induction heating furnace for stainless steel heating



变频铜棒加热炉  
Induction heating furnace for Copper bar heating



挤出铜材  
Extrude copper product



变频加热光亮退火  
Induction annealing



变频铜加热炉  
Induction heating furnace for copper bar

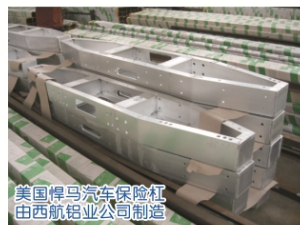
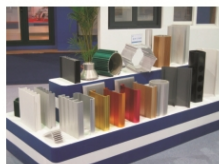


变频银加热炉  
Induction heating furnace for silver bar



## 经威特变频加热炉生产的产品

Use products produced by Weite induction-heated furnace



美国悍马汽车保险杠  
由西航铝业公司制造



苹果电脑、手机外壳

# 威特

## 典型用户

### PRODUCTS OF WEITE



中国印钞造币总公司  
China banknote printing and minting corporation



苏州罗普斯金铝业有限公司  
Suzhou Luopusijin Aluminum Industry Co., Ltd.



昆山捷安特合金科技有限公司  
Giant-alloyind Group Company



美国悍马保险杠由西航铝业生产  
American Hummer bumper produced by Xihang Aluminum industry



**盛达前兴铝业有限公司**

专业经营：  
铝型材、铝板、铝卷、铝管、铝棒、铝铸件、铝锻件、铝深加工产品

承接：工业铝型材、建筑铝型材、铝门窗、铝幕墙、铝装饰、铝加工

Shengda Qianliang Aluminum Co., Ltd.

扬州宏福集团铝业有限公司  
Yangzhou Hongfu Group Aluminum Industry Co., Ltd.



浙江康盛股份集团公司  
Zhejiang Kangsheng Group Co., Ltd.



广东和胜工业铝材股份有限公司  
Guangdong Hesheng Group Aluminum Industry Co., Ltd.



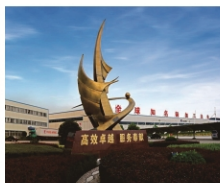
广东深美特铝业有限公司  
Guangdong Shenmeite Aluminum Industry Co., Ltd.



南京云海特种合金有限公司  
Nanjing Yunhai Special Alloy Co., Ltd.



天津金锡集团公司  
Tianjin Jinmao Group Company



浙江海亮股份有限公司  
Hailiang Aluminum Industry Co., Ltd.



浙江巨化股份有限公司  
Zhejiang Juhua Co., Ltd.



多种轿车ABS泵体采用天津银锡铝业公司铝材  
Pitching stabilization system adopts the aluminum products of Yinmao Aluminum Industry



中钞长城贵金属有限公司  
Greatwall Precious Metals Co.Ltd of CBPM



成都恒通铝业有限公司  
Chengdu Hengtong Aluminum Industry Co., Ltd.



中国北车集团齐齐哈尔轨道交通装备有限责任公司、长春机车车辆有限责任公司  
Qiqihar railway Rolling Stock Co., Ltd.  
中国南车集团株洲车辆厂  
China South Locomotive & Rolling Stock Co., Ltd.



甘肃宏达铝业有限公司  
Gansu Hongda Aluminum Industry Co., Ltd.



无锡长安汇利铜管有限公司  
Changan Huili Copper Co., Ltd.



沈阳东基集团公司  
Shenyang Dongji Group Co., Ltd.



台州征帆铜业有限公司  
Taizhou Zhengfan Copper Co., Ltd.



马鞍山新马精密铝业有限公司  
Xinma Aluminum Industry Co., Ltd.



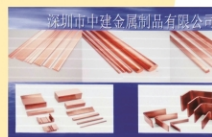
河北山山铝业有限公司  
Hebei Shanshan Aluminum Industry Co., Ltd.



浙江飞达铜材有限公司  
Zhejiang Feida Copper Material Co., Ltd.



山东长山铝型材有限公司  
Changshan Aluminum Industry Co., Ltd.



深圳中建金属制品有限公司  
Shenzhen Zhongjian Metal Products Co., Ltd.



广东中山曙光铝业公司  
Zhongshangshuang Aluminum Industry Co., Ltd.



江苏爱康科技股份有限公司  
Jiangsu Aikang Science and Technology Co., Ltd.



江苏振达铝业有限公司  
Zhenda Aluminum Industry Co., Ltd.