IDM

Carefully crafted to serve the world

LuoYang IDM Metallurgy Trading Co., Ltd.

IDM METALLURGY

LuoYang IDM is committed to the development of industries such as smelting and casting equipment in China, and has its own unique advantages in this field. For many years, the company has always prioritized technological research and development, and has carried out a series of upgrades and improvements to its products, enhancingtheir competitiveness. Currently, we have maintained friendly cooperative relationships with many countries in Central Asia, the Commonwealth of Independent States, South America, and more.

Heat treatment furnace

Melting furnace

Rolling mill

Foundry equipment

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Steel Shell Furnace

Steel Shell Medium Frequency Furnace is a frequency conversion device that converts three phase power frequency current into single-phase mediate frequency current. It causes eddy current loss in metal through electromagnetic field induction to achieve the purpose of heating and melting. It is mostly used for smelting, heating and heat preservation of ferrous or non-ferrous metals and alloy materials such as steel, copper and aluminum. Especially suitable for metal casting and steelmaking industries.

At present, the capacity of IDM's steel shell furnace ranges from 500 kilograms to 100 tons. We will develop reasonable procurement and installation plans for customers based on their actual situation. In the following communication stage, we will modify and refine the customer's plan based on their specific needs, including a detailed equipment list, operation instructions, quality standards, parts list installation layout diagram, after-sales service instructions, transportation method instructions, and other content.

Coil voltag	Rated Power	Power Consumption
2400~4000V	2200~24000Kw	510~650KWH/T

What is Steel Shell Furnace

Steel Shell Medium Frequency Induction Electric Furnace, also known as Steel Shell Smelting Furnace or Steel Shell Medium Frequency Furnace, is a power supply device that converts 50HZ frequency AC power into medium frequency power(above 300HZ to 1000HZ). It rectifies three-phase power frequency AC power into Direct current, and then converts the direct current into an adjustable medium frequency current, supplies the medium frequency alternating current flowing through the capacitor and the induction coil, generates high-density magnetic lines in the induction coil, and cuts the metal material contained in the induction coil. Large eddy currents will be generated in metallic materials Use the principle of electromagnetic induction to heat metal.The steel shell furnace has good security stability and energy saving, so it has become the preferred melting equipment for most steel companies The hourly power consumption is only 480 kWh, which is a miracle created by IDM.

Introduction to Steel Shell Furnace

The induction coil is the heart of the induction furnace. The induction coil converts electromagnetic energy into thermal energy to melt the metal in the crucible. A multi-turns of coil that made of a rectangular copper tube is wound into a spiral shape. The surface is sprayed with high-strength insulating paint and wrapped with insulating tape. Refractory clay is also applied between the turns of the mediate frequency furnace. There are water-cooling rings above and below the induction coil.

The mediate frequency furnace is the main equipment in the casting, forging and heat treatment workshops. Its working stability, reliability and safety are the guarantee for the normal and stable operation of the casting, forging and heat treatment production lines in the flow operation. It has good development prospects in the field of heat treatment

The magnetic yoke is made of high-quality silicon steel sheets and is distributed around the induction coil to support as the skeleton, so that the furnace body reaches high strength and low noise. At the same time, it also plays a role in constraining the leakage magnetic flux outside the induction coil to prevent metal components from heating. The magnetic yoke made of silicon steel sheets corresponds to the magnetic lines of force produced by the induction coil, which shields the emission, reduces magnetic leakage, improves thermal efficiency, increases output, and saves 5%-8% of energy in the operation.

In order to ensure safe production, prevent the occurrence and expansion of furnace leakage accidents help judge the condition of the furnace linings and extend the age of the furnace, it is necessary to set up a crucible leakage furnace alarm system. Generally, a DC alarm device is used, which installs a stainless steel wire bottom electrode (first electrode) in contact with the molten iron, and a stainless steel plate side electrode (second electrode) between the furnace lining induction coils.

High Quality

Our company's power supply for the Medium Frequency Furnace adopts high-performance, high-density, large scale dedicated integrated modules, which makes the trigger circuit fully digital and has the characteristics of good reliability, high accuracy, strong anti-interference ability and fast response speed. The inverter adopts scanning zero-voltage start and has an automatic repeated start circuit. The starting performance is better than the intermediate frequency power supply widely used in the domestic market. The success rate can reach 100%. The frequency following circuit adopts an average sampling scheme to improve the inverter's anti-jamming capability makes starting more convenient and reliable.

Good Performance

Long service life. It has good stability and uses the magnetic yoke to firmly fix the induction coil, so that the coil and the magnetic yoke form a stable structure Energy saving, the magnetic yoke can form a magnetic barrier around the coil to reduce magnetic flux leakage Compared with the aluminum shell furnace, it can save about 3%-5% of energy. The casting point is stable, and the hydraulic tilting furnace device can better control the casting angle and speed.

Product Features

The medium frequency electric furnace is small in size light in weight, high in efficiency, consumes less power melts and heats up quickly, the furnace temperature is easy to control, and the production efficiency is high.

Customized Design

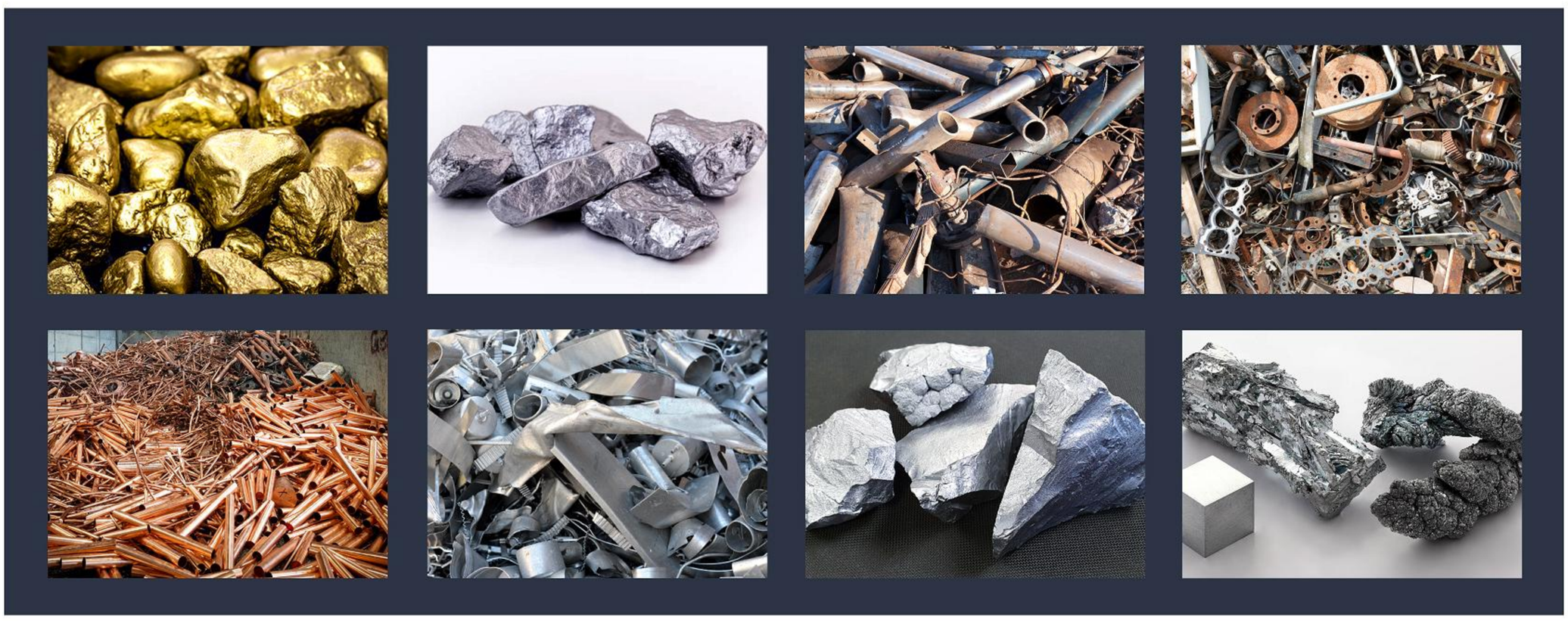
Customized design according to the actual needs of customers.

Working Principle

The mediate frequency furnace is mainly composed of a power supply, an induction coil and a crucible made of refractory materials in the induction coil. The crucible is filled with metal charge, which is equivalent to the secondary winding of the transformer. When the induction coil is connected to the AC power supply, an alternating magnetic field is generated in the induction coil. Its magnetic lines cut the metal charge in the crucible, and an induced electromotive force is generated in the metal charge. Since the charge itself forms a closed loop, this secondary winding is characterized by having only one turn and is closed. Therefore, an induced current is generated in the charge at the same time When the induced current passes through the charge, the metal charge is heated and melted.

Solution

It can smelt gold, silver, steel, iron, copper, aluminum ,silicon, zinc and other metals.



About Steel Shell Furnace

The recycling and reuse of scrap metal can save a lot of money and energy for enterprises and promote the sustainable development of enterprises. However, the intermediate frequency smelting furnace is suitable for the smelting of various metals such as steel, iron, copper, aluminum, etc., and realizes the secondary utilization of scrap metal. Therefore, it has become the preferred smelting equipment for metallurgy, casting, steel and other industries.

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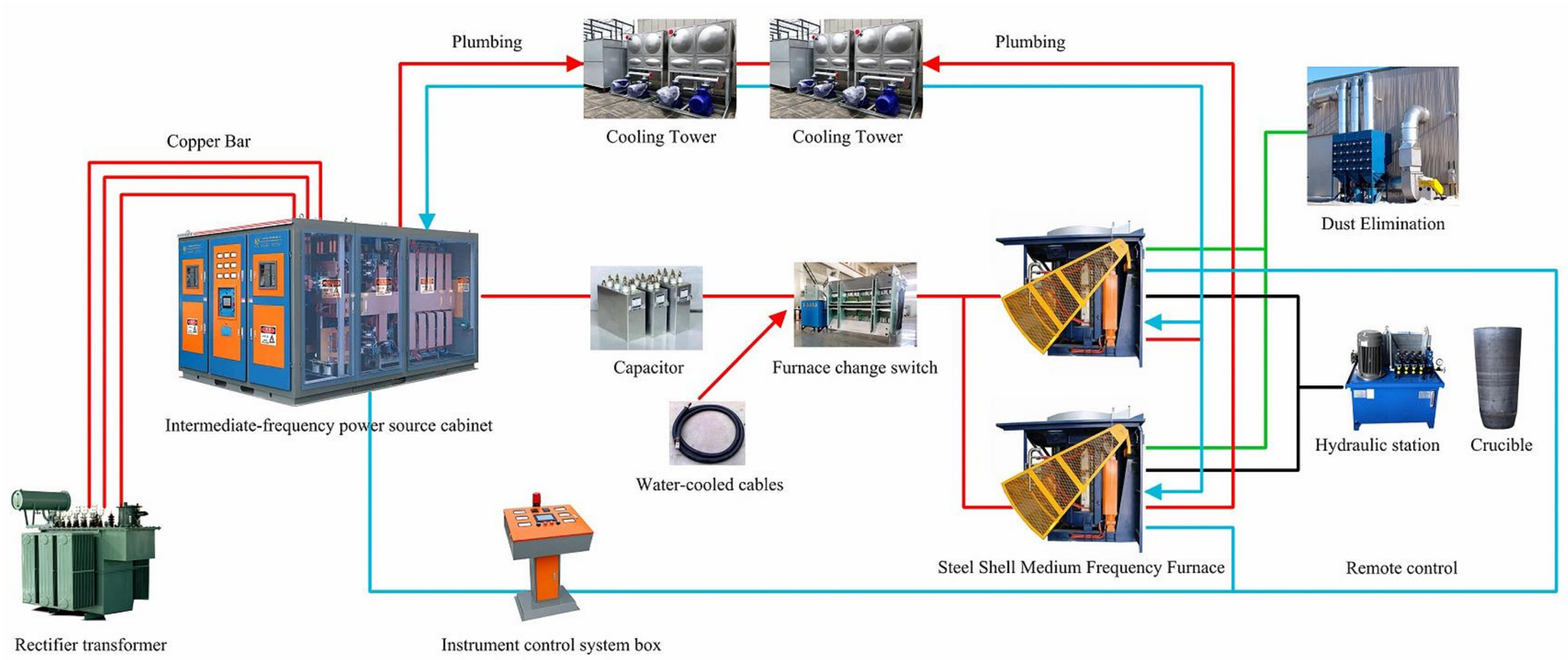

A list of the main products and other related equipment we provide to our customers.

Configuration

Equipment list

Rectifier transformer, Intermediate-frequency power source cabinet, Cooling Tower, Furnace change switch, Instrument control system box, Steel Shell Medium Frequency Furnace, Hydraulic station

Raw materials

Gold, Silver, Steel, Iron, Copper, Aluminium, Silicon, Zinc

Capacity

0.5T ~ 100T

Smelting time

0.5h ~ 1.5h

Power consumption

300Kwh/t ~ 630Kwh/t

Power

200Kw ~ 50000Kw

Furnace Tonnage	Rated power	Rated frequency	Coil voltage	Pulse	Power Consumption
T	KW	HZ	V		KWH/T
30	14000	150	3200	24	550
40	18000	150	3200	24	540
50	20000	150	3200	24	530
60	22000	100	4000	24	520
70	24000	100	4000	24	510

Heat treatment furnace factory

Factory Introduction

In order to continuously improve the quality of thermal treatment furnace, we have carried out unremitting research in the four aspects of safety, stability, efficiency, and energy saving for many years, and conducted experiments and explorations around the two major topics of reducing power consumption and reducing heat loss. Today, IDM's thermal processing furnace has an excellent performance in terms of product performance, and has established trust with customers from all over the world to meet their needs for high quality products.

Melting furnace factory

Factory Introduction

The development, production and technical upgrade of the intermediate frequency induction furnace and the sensing heating control system is one of the operating projects of IDM Metallurgy Group. The R & D Center is located in Cangzhou City and Factory of Hebei Province, China, and is located in Tangshan City Hebei Province, China. It covers an area of more than 15,000 square meters. It has a complete sales and after -sales service system. The products are sold to more than 70 countries and have been well received by customers.

Rolling mill factory

Factory Introduction

The IDM Metallurgy Group's rolling machine is located in the industrial park of Tangshan City, Hebei Province, China. It covers an area of more than 20,000 square meters. It integrates production, research and development, and sales. The comprehensive strength is among the top domestic industry. In 2016 technical cooperation with many universities in China, in -depth research in the safety and stability of the rolling machine, continuously improved product quality, and won the recognition of customers at home and abroad.

Foundry equipment factory

Factory Introduction

As the core product of the IDM Industrial Group, the casting equipment has a large proportion in the annual export share. Resin Sand Casting Line, Static Pressure Automatic Molding Line, Iron Mold Sand Coated Casting Plant and other equipment were exported to South America Eastern Europe, Africa, and West Asia, and were widely used in automotive, ships, steel, and aerospace and other fields. Mature production technology and thoughtful after sales service are important guarantees for overseas customers to establish a cooperative relationship with IDM.