



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, enhancing their 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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Box Furnace

Box Furnaces are energy-saving period-operated industrial furnace. They are mainly used for quenching normalizing, annealing and tempered heating of carbon steel, alloy steel and other workpieces. Suitable for the heat treatment of various small parts, springs and molds.



Rated temperature
1280°C

Rated Power
30 ~ 132Kw

Max. Loading
200 ~ 800Kg

What is Box Furnace

Box Furnace is a heating furnace which has a box-shaped chamber, can do heating, insulation and cooling treatment to workpieces. The workpiece is stationary during the entire heat treatment process feeding and discharging are carried out through a single door or chute. The furnace shell is welded by steel plates and shaped steel. The furnace lining is made of lightweight energy-saving refractory insulation bricks, combined with high-purity aluminum silicate fiber cotton for insulation. The electric heating elements are made of high-temperature alloy material and are placed on both walls and the bottom of the furnace. Box Furnaces generally have a thermocouple hole on the top, and the thermocouple is inserted into the furnace while using. The temperature and over-temperature protection are controlled by the temperature control system.



Introduction to Box Furnace

Box Furnace can carry out medium temperature of 950°C, high temperature of 1200°C and 1350°C and ultra-high temperature heat treatment of 1600°C and 1700°C. It is mainly used for heat treatment such as normalizing, quenching, annealing, and tempering of alloy steel products and various molds or for high-temperature sintering of diamond saw blades.

In order to prevent the leakage of hot gas in the furnace, the furnace door is designed with two layers of sealing from the inside to the outside. The inner layer is sealed with ceramic fiber rope, and the outer layer is sealed with a silicone rubber sealing ring. In order to extend its service life, a stainless steel cooling water jacket is designed at the furnace opening seal for cooling. The door lock adopts a multi-point handwheel rotation locking mechanism, which can lock evenly around the door at the same time. In addition, the furnace door fixing device is installed on the end face of the furnace and adopts a movable double hinge mechanism, which can move with the free extension of the furnace and has a better sealing effect.

According to the heating method, it can be divided into electric heating, fuel heating and gas heating. They are Box Resistance Furnace, Fuel-Fired Box Furnace, and Gas-fired Box Furnace.

According to the heat treatment temperature, it can be divided into: medium temperature box furnace at 950°C, high temperature box furnace at 1200°C and 1350°C, and ultra-high temperature box furnace at 1600°C and 1700°C.

According to different usages, it can be divided into: medium-temperature box furnace, high-temperature box furnace, ultra-high-temperature box furnace, box annealing furnace, box tempering furnace, box quenching furnace, box forging furnace, hot riveting heating furnace, box Catalyst roaster etc...

High Quality

The working room is a furnace chamber made of refractory materials, with the heating element placed in it. The furnace and the furnace shell are insulated with insulation materials. The lower end of the furnace opening is equipped with a safety switch that interlocks with the furnace door. When the furnace door is opened, the power supply is automatically cut off to ensure safe operation.



Good Performance

Adopting a new type of energy-saving furnace lining the temperature rises quickly, the empty furnace loss is small, and the energy saving is more than 20% compared with the old product.



Product Features

The electric furnace has large loading capacity and high productivity. It is especially suitable for heat treatment of small and medium-sized parts. It saves energy up to 20%. The furnace temperature is uniform and is controlled by the digital display automatically. It is convenient to load materials. The sealing between the furnace door and the body is automatic sealing, no manual sealing required, equipped with a chain protection device to prevent malfunctions and accidents caused by operation mistake.



Customized Design

Customized design according to the actual needs of customers.

Working Principle

Radiation heat transfer of furnace gas to metal

mainly after the energy radiated by the furnace gas is transmitted to the furnace wall and the metal surface, part of it will be absorbed and part of it will be reflected back. The reflected heat passes through the furnace gas that fills the furnace chamber, part of it will be absorbed by the furnace gas and the remaining part will be radiated to the opposite furnace wall or metal, and radiated like this again and again.

Radiative heat transfer from the wall and top of the box resistance furnace to the metal

the inner surface of the furnace wall also absorbs heat in the form of convection, and the heat is still transmitted in the form of radiation.

Convection heat transfer of box resistance furnace to metal

In the existing box resistance furnace chamber, the temperature of the furnace gas is mostly in the range of 800°C-1400°C. When the temperature is around 800°C, the effects of radiation and convection are almost equal. When the temperature is higher than 800°C, the convective heat transfer decreases while the radiation heat transfer increases sharply.

Furnace Type	Furnace Chamber Size	Rated Voltage	Rated Power	Rated Temp.	Heat Up time
	mm	V	KW	°C	H
RX3-30-9	900x450x350	380	30	950	2
RC3-132-9	2200x1100x750	380	132	950	3
RX3-30-6	950x450x350	380	30	650	1.5-2
RX3-45-6	1200x600x400	380	45	650	1.5-2
RX3-60-6	1500x750x400	380	60	650	1.5-2

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.

