



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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Iron Mold Sand-Coated Casting Plant

The Iron Mold Sand-Coated Plant (it is metal mold sand-coated casting and belongs to a special casting technology) is a casting process that covers the inner cavity of the metal mold with a thin layer of molding sand to form a mold. It combines the advantages of metal mold casting and shell mold casting. It is widely used in the mass production of high-end automotive lightweight castings as well as engine castings, elevator castings, wear-resistant castings, etc. that require high performance and high safety.



What is Iron Mold Sand-Coated Casting Plant

The Iron Mold Sand-Coated Plant consists of an iron mold sand coating machine, a box closing mechanism, a roller conveyor, a turntable, a box turning mechanism, a box opening mechanism, a casting removal machine, a shakeout machine, etc. It uses two iron mold sand coating machines to make the top and bottom iron molds respectively. After the sand coating is completed, it automatically drops to the roller conveyor. The roller conveyor transfers the sand box to the turntable and sends it to the turning machine station. After turning the box, it enters the box closing process. After the box is closed, it will automatically drop to the motorized roller conveyor. After the sand box is locked and the pouring cup is installed, it will be transported to the end of the roller conveyor to wait for casting. This Plant has the characteristics of good rigidity, thin sand coating, fast cooling speed of castings, and fine sand particles. It can significantly improve the dimensional accuracy, compactness, surface quality and spheroidization rate of castings.



Introduction to Iron Mold Sand-Coated Casting Plant

The Iron Mold Sand-Coated Plant uses the coated sand for thermal curing molding. The casting mold has the characteristics of high dimensional accuracy, good surface quality, and no compromise. It is especially suitable for various types of castings with higher quality requirements, especially for nodular iron castings, the self-compensated contraction caused by graphite dilatation in the solidification process of nodular cast iron makes casting with less flow-off or casting without flow-off possible.

Since the iron molds vary according to the shape of the castings produced, they are not universal. The cost of the molds required for casting production is higher. From the point of view of economic castings suitable for iron mold sand-coated casting must have characteristics of large-scale production.

At present, in actual production, sand coating molding is completed by a sand coating molding machine and other processes are completed by various auxiliary equipment. The auxiliary equipment can be divided into two types: pneumatic and manual. There are also two types of rollers for conveying iron molds, manual and motorized, to adapt to the requirements of different degrees of mechanization.

Since the iron mold is covered with sand, there will be no pits in the inner cavity of the mold after being used many times, making the surface of the produced high-chromium sphere smooth and pit-free.

Advanced CAD/CAM/CAE technology has been introduced into the modern iron mold sand coating process. Through simulation and optimized design, the forming accuracy and process stability of castings have been improved. At the same time, the application of robotic technology has also enabled partially automated production, further improving production efficiency and product quality.

High Quality

The sand materials and molds used in the iron mold sand coating process use new high-temperature wear resistant materials, which improves the service life and high-temperature resistance of the molds, and enhances the quality and stability of the castings.



Good Performance

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Product Features

Because the casting mold composed of the iron mold and the sand coating layer has good rigidity, fast cooling and good density of the sand coating layer, the castings produced have high dimensional accuracy, small machining allowance, good surface quality, dense internal structure, and good product quality consistency. And because the equipment takes up less space, requires less investment, and has quick results, it is popular with many small and medium-sized enterprises.



Customized Design

Customized design according to the actual needs of customers.

Working Principle

Mold making

Make the basic frame of the sand mold covered with iron film in the mold and determine the dimensions and shape of the casting and other parameters.

Coating with iron film

Using vacuum evaporation technology, a layer of iron film is coated on the surface of the mold to ensure that the sand core remains intact. The thickness of the iron film is usually between 10-15 microns.

Sand mold making

Fill the mold covered with iron film with an appropriate amount of mortar, and compact it manually or use vibration technology to create the sand mold required for castings. At the same time, air and impurities are eliminated through the discharge hole.

Casting

After the sand mold is completely dry, proceed with casting. Pour the molten metal raw material into the sand mold and cast it evenly into the sand mold. After the metal cools and solidifies, it is taken out to complete the remaining castings.

Type	Size of sand box	Compacting pressure	Power	Machine size
	mm	MPa	KW	t
DL-ZX3040	350*450	≤ 10	15	4150*1890*3050
DL-ZX4050	410*510	≤ 12	15	4080*2100*2980
DL-ZX5060	500*600	≤ 14	15	4400*2100*3200
DL-ZX6070	600*700	≤ 14	24	4700*2410*3540

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.

