



**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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# Resin Sand Casting Line

Resin sand is a chemical substance that can clean paint and coating layers. The casting of many castings is inseparable from resin sand. In the foundry industry, "resin sand casting" is an excellent and reliable casting method. During the casting process, the properties of resin sand are used to isolate and block the casting and the casting mold, thereby shaping the casting.



## What is Resin Sand Casting Line

The Resin Sand Casting Line is mix resin and sand together firstly, and then the mixture is self-hardened through chemical reaction to produce exceptionally hard molds. The resin sand casting line consists of a shakeout system, a crushing system, a regeneration system, a sand conditioning system, an air supply system, a dust removal system, etc. It is an efficient and environmentally friendly casting process. It has the advantages of high dimensional accuracy, good surface quality, and high production efficiency. It is widely used in casting production of automobiles, machinery, ships and other industries.

## Introduction to Resin Sand Casting Line

The sand supply system is an important part of the resin sand casting line and is responsible for

transporting raw sand to the sand mixing equipment. The sand supply system usually consists of sand storage bin, quantitative conveying device and conveying pipeline. The sand storage bin is used to store raw sand. The quantitative conveying device quantitatively transports the raw sand to the sand mixing equipment according to production needs. The conveying pipeline is responsible for transporting the raw sand to the vicinity of the sand mixing equipment.

The sand mixing equipment is the core part of the resin sand casting line, responsible for mixing resin and raw sand into resin sand. Sand mixing equipment usually consists of a mixer, sand mixing box and control system. The function of the mixer is to fully mix the resin and raw sand evenly. The sand mixing box is used to store the mixed resin sand. The control system is responsible for controlling the operation of the sand mixing equipment and adjusting the ratio of the resin sand.

Resin sand reclamation equipment is used to reconditioning the used resin sand. Through sand reconditioning, the resin sand can regain its performance and be reused, thereby reducing production costs and waste emissions. The equipment usually consists of heating device, crushing device and dust removal device.

Dust removal equipment is used to remove dust and waste gas generated during the production of resin sand. Dust removal equipment usually consists of filters, vacuum cleaners and discharge devices.



## High Quality

The resin sand process can minimize environmental pollution caused by waste sand removal. At the same time, due to the high stiffness of the resin sand, there is basically no wall displacement during the pouring and solidification processes, so the dimensional accuracy of the castings is very high.

## Good Performance

The resin sand casting line is not limited by the shape complexity and alloy type of the castings. It has a short production cycle and is widely used. It is suitable for mass production of castings.

## Product Features

The castings have high dimensional accuracy and clear external contours. The surface of the casting is smooth and the appearance quality is good. The structure is dense and the overall quality of the casting is high.

## Customized Design

Customized design according to the actual needs of customers.

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## Working Principle

### Sand preparation stage

Mix raw sand and resin together according to a certain proportion, usually in a sand mixer.

### Mold making stage

Make molds and core boxes according to part drawings. Plastic molds or metal molds can be made for mass production, and templates can be made for large batch castings.

### Molding stage

Use molding sand to form the cavity of the casting to form the internal shape of the casting. Place the matching mold into the cavity and close the top and bottom sandboxes.

### Smelting stage

Prepare the chemical composition according to the required metal composition, select a suitable melting furnace to melt the alloy material and form a qualified liquid metal.

## Pouring stage

Use a ladle to pour the molten iron melted in the electric furnace into the sand mold.

## Cleaning stage

After pouring, wait for the molten metal to solidify, use a hammer to remove the gate and shake off the sand on the casting, and then use a shot blasting machine or sandblasting machine to sandblast so that the casting surface will appear very clean.

## Inspection stage

Casting inspection is generally carried out during cleaning or processing, and for special castings, non destructive testing is required.

Type	Productivity	Dia	Rotate speed	Motor power	Turning radius
	t/h	mm	r/min	KW	mm
S245	5	φ175	960	3	R2000
S248	8	φ200	960	5.5	R2000
S2412	12	φ225	720	7.5	R2000
S2415	15	φ230	720	11	R2000
S2420	200	φ250	720	15	R2000

# 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.

