



**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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# Lost foam casting production line

Lost foam casting process is a high-precision, high-efficiency, low-cost, and environmentally friendly casting process suitable for structurally complex castings and large-scale production. Using polystyrene beads to make a solid shape, the shape vaporizes and disappears during pouring, and the metal liquid replaces its position. This process has the characteristics of long mold life, no allowance, and no processing stress, and can cast various metal castings, improving the working environment of the casting workshop.



## What is Lost foam casting production line

Lost foam casting, also known as full mold casting, is a kind of full mold made of foamed plastic polymer materials, which is exactly the same as the structure and size of the parts to be cast. After being sprayed with fire-resistant coating and dried, it is buried in dry quartz sand and subjected to three-dimensional vibration modeling. A new casting method that involves pouring molten metal into a molding sand box under negative pressure, heating and vaporizing the polymer material model which is replaced by the metal liquid. After cooling and solidification, it is formed in one go.





## **Introduction to Lost Foam Casting Production Line**

Castings produced using the lost mold casting process have no burrs, burrs, and mold inclination reducing dimensional errors caused by core combinations. The casting has precise size and shape good repeatability, and has the characteristics of precision casting.

The gating system plays a very important role in the lost foam casting process and is the key to the success or failure of casting production. Due to the wide variety and different shapes of castings, each casting has its own specific production process characteristics, and they vary greatly. These factors directly affect the accuracy of the design results of the pouring system.

Adopting mechanical, hydraulic, pneumatic, and electric control methods, the number of sand boxes varies from 10 to 50, and is equipped with a sand cooling system. The annual output is 2000 to 30000 tons, suitable for large-scale production.

The layout principle of the lost foam casting production line is to make the equipment layout as compact as possible, fully utilize space, and shorten the connection distance between the main equipment and various auxiliary equipment as much as possible.

## **High Quality**

During the production process, there is no need for sand molds and molds, eliminating the need for sand turning, cleaning, bonding, and assembly, greatly improving production efficiency.



## Good Performance

Without the need to remove the model, there is no parting surface, no machining allowance, no deformation after forming, and no mechanical processing stress. It can cast various thin-walled parts with complex shapes and large and medium-sized castings with medium wall thickness.



## Product Features

There are no strict restrictions on the weight and size of castings, making it particularly suitable for casting castings with complex structures. The surface of the casting is smooth and smooth, without defects such as pores and sand holes, which can meet the casting requirements of high-precision components.



## Customized Design

Customized design according to the actual needs of customers.





# Working Principle

The foam plastic gasification mold is mechanically made and then combined and dried. After spraying refractory coating on the surface, dry it again, place the special sand box on the three-dimensional vibrating table, fill in the bottom sand, compact and scrape it, place the dried foam plastic gasification mold on the bottom sand, and fill the sand according to the process requirements. After automatically compacting for a certain period of time, scrape the box mouth flat, cover the sand box mouth with plastic film, place a pouring cup, and connect to the negative pressure system. After compaction, the molten steel shall be cast, the foam plastic mold shall be vaporized and disappear, and the metal liquid shall replace its position. After the casting is condensed, the vacuum shall be released and the box shall be turned over, and the casting shall be taken out for the next cycle.



size of molding box	Molding efficiency	Annual output	Sand processing capacity
mm	mold/h		t/h
2800*2000*350/350	6	10000	5-10
1750*1600*650/450	5-10	10000	5-10
1000*800*150/150	10-15	600-1000	5
2000*1600*360/310	10	30000	35-40
3100*1900*450/450	20	50000	50



# 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.

