



**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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# Aluminum Caster Mill

Aluminum Caster Mill integrates the casting and hot rolling processes. After the liquid aluminum passes through continuous casting and rolling, it produces a coiled strip equivalent to 6-10mm after hot rolling. It has advantages of simplified process, low investment, small floor space, short construction period, low energy consumption, high efficiency, less labor, low casting and rolling mill operating costs and low production costs.



**Roll diameter**

$\phi$  600~ $\phi$  1200mm

**Rolling speed**

800~1500mm/min

**Max.coil weight**

20000Kg

## What is Aluminum Caster Mill

Aluminum Caster Mill is to process the molten aluminum after refining in the stationary furnace through the stationary furnace mouth liquid level automatic control device further refining in the degassing box front box mouth turning in opposite directions and circulating inside the casting roll of cooling water makes the molten aluminum crystallize and produce a certain deformation rate, so as to realize the casting and rolling of molten aluminum and aluminum alloy liquid metal into 5-10 mm cast-rolled plates, then after end-cutting and coiling, the process of casting coil strip is finished.





## Introduction to Planetary Rolling Mill

The control device for the liquid level of the front box of the the aluminum caster mill: to ensure that the front box can continuously supply liquid aluminum to the casting nozzle under a certain pressure.

The axis of the aluminum caster mill and the vertical line of the ground are arranged at an inclination angle of 15 degrees <vertical centerline and mill centerline>, mainly to overcome metal segregation and reduce the surface tension at the metal oxide film during the rolling process.

The horizontal adjustment oil cylinder of the casting nozzle drives the walking, the horizontal and vertical micro adjustments are manually completed, and the manual micro adjustments are equipped with mechanical locking devices to ensure long-term reliable operation. During operation: The operator can individually and accurately adjust each side of the casting nozzle according to the process requirements.

The carbon powder with separation and lubrication effect is sprayed on the surface of the roll by the flame spraying system to prevent the aluminum liquid from sticking to the roll.

Each roll of the aluminum caster mill is driven by an AC motor and a planetary gear reducer separately and is synchronized by a fully digital control system to achieving the accurate adjustment.

## Customized Design

Customized design according to the actual needs of customers.



## High Quality

Utilizing PLC, servo system or frequency conversion system and sensor and other technologies using the touch screen as a human-computer interaction interface it mainly realizes the technology of automatic control of the liquid level at the furnace nozzle during the production process, which improves the quality of the finished product and at the same time ensures more safety for workers during production.

## Good Performance

The production line has reasonable configuration compact structure, and easy operation, which reduces the energy consumption of a series of processes required for hot rolling; there is less geometric waste such as head cutting and tail cutting, high yield, and low production cost.

## Product Features

The equipment is simple and centralized, simplifying the production process, shortening the production cycle, improving labor productivity, and having a high degree of automation. The equipment occupies a small area and the construction speed is fast.

## Working Principle

Through the nozzle of the casting nozzle, the molten aluminum is injected onto the cooled roll, and the molten aluminum is distributed along the width direction of the roll surface. Now the metal is slightly ahead of the roller gap on the center line of the roller, so that the molten aluminum can be solidified and cooled in a very short time, completing the entire casting and crystallization process and forming a cast-rolled strip after hot-rolling. In this process, a large amount of heat of the molten aluminum is quickly taken away by the rolls.

Product thickness	Product width	Length of roll surface	Dia of casting roll	Max. coil weight
	mm	mm	mm	t
5-10	600-1500	1650	720	8
5-10	600-1700	1850	850	10
5-10	600-1700	1900	960	12
5-10	600-1900	2000	1003	15
5-10	600-2100	2350	1200	22



# 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.

