



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

 Tangshan City, Hebei Province, China

 www.lyidm.com

 jack_idm@163.com

 +86-15036707993

 +86-37968291218

Blast Furnace

Blast furnace is a kind of industrial equipment used for iron making, and its overall structure is divided into five parts from top to bottom, namely furnace throat, furnace body, furnace waist, furnace belly and furnace cylinder, and equipped with important devices such as cooling equipment, blower and dust collector. The blast furnace shell is made of steel plate, and the inner shell is lined with refractory bricks. It is mainly used for smelting pig iron, ferromanganese, mirror iron and ferrosilicon.



What Is Blast Furnace

Slightly resembling a bowling ball, the blast furnace is made of welded steel plates on the outside and filled with refractory material to withstand the high temperatures. There is an iron outlet at the bottom of the furnace bed and a slag outlet at a suitable height above it, but the two outlets are not positioned on the same vertical line. In the upper part of the furnace bed, the lower part of the furnace belly, uniformly surrounded by a number of blower vents, and connected to the hot air duct of the hot air furnace. The top of the furnace has a double or triple bell-shaped lid. Near the bottom of the lid there are four roof gas exhaust pipes around the furnace wall, which are connected to the dust collector by a synthetic downdraft pipe outside the furnace. Large blast furnaces can reach heights of 90 to 100 meters, and their productivity is based on the amount of iron produced per 24 hours, with large blast furnaces up to 10,000 tons or more, and small blast furnaces up to 100 tons.



Introduction To Blast Furnace

The blast furnace is divided into five parts from top to bottom: furnace throat, furnace body, furnace waist, furnace belly and furnace cylinder. The furnace body is the basic part of the blast furnace, which directly affects the operation efficiency and product quality of the blast furnace.

The role of the furnace shell is to fix and cool all kinds of equipment, to ensure the overall solidity of the blast furnace, in addition to withstand the huge gravity, but also to withstand the thermal stress and the internal gas pressure, so it should have enough strength. The external dimensions of the furnace shell have to be adapted to the inner shape of the blast furnace, the thickness of the furnace parts and the structural form of the cooling equipment.

The internal temperature of the blast furnace is as high as 1400°C , and the general refractory bricks have to be softened and deformed. Blast furnace cooling units are therefore provided to extend the life of the furnace lining, to enable heat to be transferred out of the lining and, in the lower part of the blast furnace, to allow the slag to condense on the lining to form a protective slag skin.

The hot blast furnace is an indispensable and important part of the blast furnace heating and blasting equipment. A modern hot air furnace is a regenerative heat exchanger. The current level of wind temperature is 1000°C - 1200°C , high for 1250°C - 1350°C , up to 1450°C - 1550°C . Improving the thermal efficiency of the hot air furnace and prolonging the life of the hot air furnace is an effective way to increase the air temperature.

Blast furnace blower is the most important power equipment of the blast furnace, which can directly provide the blast furnace with the oxygen needed for smelting. At present, most of the blowers used in large and medium-sized blast furnaces are centrifugal blowers and axial flow blowers driven by turbines.

High Quality

Automated control systems are widely used, applying a large number of sensors and computer technology to the production process. By monitoring parameters such as gas flow, temperature and pressure in the furnace, the reaction process in the furnace is controlled ultimately realizing precise positioning and effective control of the production process.



Good Performance

Blast furnace intelligent technology is applied to material transportation, charge analysis, fuel injection, wind control, emission control and so on. Through accurate data monitoring and intelligent regulation, accurate measurement and automatic control can be realized making steel production more efficient.



Product Features

Capable of large-scale production to meet the needs of modern industry for iron ore smelting. The increasing level of automation in the blast furnace has reduced costs while increasing productivity. The longer service life of the blast furnace reduces the waste of resources due to frequent replacement of equipment.



Customized Design

Customized design according to the actual needs of customers.

Working Principle

During production, iron ore, coke, and flux are continuously loaded from the top of the furnace, and hot air is blown into the blast furnace from the lower air openings, while fuels such as oil, coal, or natural gas are injected. The iron ore loaded into the blast furnace is exposed to high temperatures and the coke neutralizes the carbon as well as the carbon monoxide, taking the oxygen out of the iron ore to make pig iron, which is released from the iron outlet. The pulses in the iron ore, coke and ash in the blowing material combine with the fluxes such as limestone added to the furnace to form slag which is discharged from the iron outlet and the slag outlet respectively. The gas is exported from the top of the furnace and after dedusting, it is used as industrial gas.



Type	Height	Diameter	Volume	Yield	Gas consumption
	m	m	m ³	t/d	m ³ /t
BL1	21.2	5.5	1320	1450	460 ~ 480
BL2	25.2	6.5	2200	2450	390 ~ 400
BL3	23.2	6.2	1900	2150	400 ~ 420
BL4	28.2	7.5	3500	3850	360 ~ 380

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.

