

Magnetic Drum Separator for Mineral Processing

This magnetic separator is widely used in resource recycling, mining, and chemical industries. It is suitable for separating materials such as magnetite and ilmenite with granularity below 3mm.



Overview

High-Efficiency Magnetic Separation

The Magnetic Drum Separator is a high-versatility machine designed for the ore beneficiation industry, specifically for separating materials like magnetite, pyrrhotite, and ilmenite. It excels in resource recycling, mining, and chemical processing by efficiently removing iron powder from various materials. With a stable and strong magnetic field, this wet magnetic separator ensures reliable performance in demanding industrial environments.

Primary Applications

Mining, Resource Recycling, Timber, Ceramics, Chemicals, Food Industry

Technical Features

Key Features

- High magnetic field strength
- Large wrap angle of the magnetic system
- Stable magnetic field performance
- Suitable for materials with granularity below 3mm

Compatible Materials

Magnetite • Pyrrhotite • Roasted Ore • Ilmenite • Iron Powder

Model Specifications

CTB1018 Performance Metrics

1050 mm

Shell Diameter

50 t/h

Min Capacity

5.5 kw

Power

Technical Data Comparison

Model	Shell Diameter (mm)	Shell Length (mm)	Rotation Speed (r/min)	Feeding Size (mm)	Capacity (t/h)	Power (kw)
CTB6012	600	1200	<35	2-0	10-20	1.5
CTB6018	600	1800	<35	2-0	15-30	2.2
CTB7518	750	1800	<35	2-0	20-45	2.2
CTB9018	900	1800	<35	3-0	40-60	3
CTB9021	900	2100	<35	3-0	45-60	3
CTB9024	900	2400	<28	3-0	45-70	4
CTB1018	1050	1800	<20	3-0	50-75	5.5
CTB1021	1050	2100	<20	3-0	50-100	5.5
CTB1024	1050	2400	<20	3-0	60-120	5.5
CTB1218	1200	1800	<18	3-0	80-140	5.5
CTB1224	1200	2400	<18	3-0	85-180	7.5
CTB1230	1200	3000	<18	3-0	100-180	7.5
CTB1530	1500	3000	<14	3-0	170-280	11

Operation



Illustration of the magnetic separation process showing the rotating drum and internal magnetic system.

Magnetic Separation Process

The pulp flows into the cell body where magnetic ore particles form chains under the influence of the magnetic field and are absorbed onto the rotating cylinder. As the cylinder rotates, alternating polarities cause magnetic mixing, allowing non-magnetic gangue to split away. Finally, the concentrated magnetic material is discharged into a chute via water flow or a brush roll at the point where the magnetic field is weakest.