



选矿设备

SINOSTEEL ANHUI TIANYUAN
TECHNOLOGY CO., LTD.

*Professional Manufacturer
of Magnetic Separator*
高效、节能磁选设备专业制造

磁选设备“始创者和领跑者”

优势 市场 专利



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Wet type drum permanent magnetic separator
- 06** CT系列粗粒永磁筒式磁选机
CT series drum permanent magnetic separator
for oversize particle
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MCS series permanent magnetic dehydration tank



系列湿式永磁筒式磁选机

WET TYPE DRUM PERMANENT MAGNETIC SEPARATOR



顺流磁选机 / Concurrent Type

◆ 工作原理

给矿矿浆流向与磁滚筒旋转方向一致，矿浆流经磁滚筒选别区时磁性矿物被吸到磁滚筒表面并随同向旋转的磁滚筒一起带到磁系另一端的精矿卸矿区排出。非磁性与弱磁性矿物经槽体尾矿口排出。

◆ 适用范围

处理粒度6~0毫米的强磁性物料的粗选和精选作业。

◆ 突出优点

磁选机处理能力大，精矿品位高。

◆ Operating principle

The flow direction of feed ore slurry is consistent with the drum rotation direction, with co-rotating of drum, the magnetic minerals are absorbed on the drum surface when the slurry flow through the drum separation area, and discharged on the concentrate outlet tank located on the opposite side of magnets system. Meanwhile, the non-magnetic and weakly magnetic minerals are discharged on the tailing outlet tank.

◆ Application

It is used to separate high magnetic minerals with size between 6 and 0 mm on the stage of roughing and cleaner process.

◆ Advantage

High capacity and high concentrate grade.



全逆流磁选机 / Complete Countercurrent Type

◆ 工作原理

矿浆流向与磁滚筒旋转方向相反，矿浆流经整个选别区时磁性矿物被磁滚筒吸引并随逆向旋转的磁滚筒一起被带到精矿卸矿区排出，给矿区与精矿区在磁滚筒同侧。非磁性及弱磁性矿物由磁系另一端的尾矿孔排出。

◆ 适用范围

粒度3~0毫米的强磁性矿物的粗选与扫选作业，以及选煤厂回收重介质(磁铁矿)。

◆ 突出优点

能大量丢弃低品位尾矿,可以降低二次磨矿分级负荷,节省电耗和水耗,金属回收率较高。

◆ Operating principle

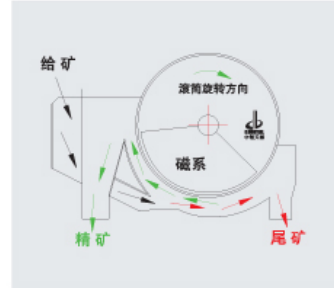
The flow direction of feed ore slurry is opposite with the drum rotation direction, with counter rotating of drum, the magnetic minerals are absorbed on the drum surface when the slurry flow through the drum separation area, and discharged on the concentrate outlet tank located on the same side of feed box. Meanwhile, the non-magnetic and weakly magnetic minerals are discharged on the tailing outlet tank located on the opposite side of magnets system.

◆ Application

It is used to separate high magnetic minerals with size between 6 and 0 mm on the stage of roughing and scavenging process, and recover the heavy medium in the coal washing.

◆ Advantage

It could discard low grade tailing in a large quantity, reduce the load of secondary grinding, improve metal recovery and save the power and water consumption.



半逆流磁选机 / Semi-countercurrent Type

◆ 工作原理

矿浆由槽体中部给入选别区，给矿方向与磁场吸引力方向基本相同，磁性矿物被吸引到磁滚筒表面并随同向旋转的磁滚筒一起被带到精矿卸矿区排出。非磁性及弱磁性矿物逆磁滚筒旋转方向流经磁选机扫选区后由尾矿口排出，槽体内矿浆水平面保持恒定。

◆ 突出优点

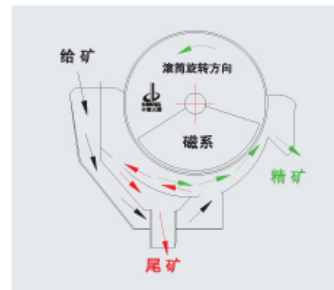
既可以获得较高的铁精矿品位，又能获得较高的金属回收率。

◆ Operating principle

The ore slurry feed into the separation area from the middle of the tank. The direction of feed is nearly the same with attractive force direction of magnetic field. With the co-rotating of drum, the magnetic minerals are absorbed on the drum surface and discharged on the concentrate outlet tank. Meanwhile, the non-magnetic and weakly magnetic minerals are discharged after scavenging area on the tailing outlet tank by the opposite rotary direction of drum. The horizontal plane of slurry in the tank keeps steady.

◆ Advantage

It could improve both concentrate grade and metal recovery.



» 浓缩磁选机 / Thickener Separator

◆ 适用范围

专门用于提高磁性矿物浓度。

◆ 突出优点

对强磁性矿物回收率高，处理量大，浓缩效果显著。

在强磁性矿物浓缩作业中可以取代占地面积大的脱水槽、浓缩池。

采用刮板卸矿，可获得较高的精矿浓度。

用于过滤作业前，可以提高过滤机的给矿浓度，改善过滤效率及精矿含水量指标。

用在三段磨矿前，提高粗精矿的浓度。

◆ Application

It is used to improve the density of magnetic minerals.

◆ Advantage

High recovery for strong magnetic minerals, High capacity and outstanding thickener effects.

It could replace the dewatering tank and thickener tank with large occupation area in the process of thickening of strong magnetic minerals.

It could improve the concentrate density by the blades discharge.

It could improve the feed density before filter process, and improve the efficiency of filtering and the water content index of concentrate.

It could improve the density of coarse concentrate when used before the third-stage grinding.

CT系列粗粒永磁筒式磁选机

CT SERIES DRUM PERMANENT MAGNETIC SEPARATOR FOR OVERSIZE PARTICLE



◆ 工作原理

采用半逆流或顺流型槽体，设备的规格型号与湿式永磁筒式磁选机同规格的半逆流或顺流型磁选机相同，但槽体的结构和尺寸有所变化。

◆ 适用范围

用于半自磨、细碎或高压辊磨机后的粗粒抛尾，以减少球磨机入磨矿量。

半逆流型的粗粒磁选机给矿粒度一般在0~5mm，顺流型粗粒磁选机的给矿粒度可达0~12mm。

◆ 突出优点

有利于提高磨选系统处理能力，减少能耗及球耗。

◆ Operating principle

With different structure and size of semi-countercurrent or concurrent tank, this series separator has the same specifications index and types as semi-countercurrent or concurrent types of wet type drum permanent magnetic separators.

◆ Application

Used for coarse discarding after semi-autogenous grinding, fine crushing or high pressure grinding roll in order to reduce ROM input of ball mill.

Normally, feed size of semi-countercurrent type is 0-5mm, while concurrent type is 0-12mm.

◆ Advantage

To increase capacity of grinding separation system, as well as reduce consumption of both energy and steel balls.

» 技术参数 / Technical Parameters

规格型号 type	圆筒 直径 drum diameter (mm)	圆筒 长度 drum length (mm)	筒表磁感应强度(mT) magnetic intensity on drum surface			工作 间隙 work gap (mm)	给矿粒度 feed size (mm)		处理能力 capacity		电机 功率 motor power (kw)	外型尺寸 长×宽×高 size (mm)	设备 重量 weight (kg)
			铁氧体 磁系 ferrite magnets system	稀土复合磁系 rare-earth compound magnets system	全稀土 磁系 rare-earth magnets system		半逆流 semi- counter current (B)	顺流 concurrent (S)	干矿量 dry ore (t/h)	矿浆量 slurry ore (m ³ /h)			
CTB(S)1240	1200	4000	100~180	180~350	350~500	45~75	5~0	12~0	105~200	230~410	15	5700×2340× 2020	9300
CTB(S)1236	1200	3600	100~180	180~350	350~500	45~75	5~0	12~0	95~180	210~380	15	5230×2340× 2020	8800
CTB(S)1232	1200	3200	100~180	180~350	350~500	45~75	5~0	12~0	85~160	190~350	11	5150×2340× 1980	8200
CTB(S)1230	1200	3000	100~180	180~350	350~500	45~75	5~0	12~0	80~150	180~340	11	4880×2340× 1980	7800
CTB(S)1227	1200	2700	100~180	180~350	350~500	45~75	5~0	12~0	70~140	160~320	11	4540×2340× 1980	7300
CTB(S)1224	1200	2400	100~180	180~350	350~500	45~75	5~0	12~0	70~130	150~300	7.5	4240×2340× 1980	6900

DPC系列多极漂洗磁选机

DPC SERIES MULTI-POLES RISING MAGNETIC SEPARATOR



◆ 工作原理

磁性矿物在通过选别区的多个磁极时产生多次磁翻转，磁团聚经多次翻转后易被打开，在漂洗水的作用下冲走磁团聚中包裹的脉石及贫连生体，从而提高精矿品位。

◆ Operating principle

Magnetic minerals turn over while flow through separating area with many multi-poles, and the gathering magnetic minerals becoming loose after turns many times. The gangue and poor associated ore in the gathering magnetic minerals will be washed away by rinsing water, so the concentrate grade is improved.

◆ 适用范围

用于精选作业，提高精矿品位。

◆ 突出优点

具有比普通磁选机更多的磁极和独特的漂洗水装置，可有效提高精矿品位。

◆ Application

To improve concentrate grade in concentrating separation.

◆ Advantage

It could improve concentrate grade effectively with multi-poles outnumbering regular magnetic separators and a particular rinsing water device.

技术参数 / Technical Parameters

规格型号 type	圆筒 直径 drum diameter (mm)	圆筒 长度 drum length (mm)	筒表磁感应强度(mT) magnetic intensity on drum surface			工作 间隙 work gap (mm)	给矿 粒度 feed size (mm)	处理能力 capacity		电机 功率 motor power (kw)	外型尺寸 长×宽×高 size (mm)	设备 重量 weight (kg)
			铁氧体 磁系 ferrite magnets system	稀土复合磁系 rare-earth compound magnets system	全稀土 磁系 rare-earth magnets system			干矿量 dry ore (t/h)	矿浆量 ore pulp (m ³ /h)			
DPC1240	1200	4000	100~180	180~350	350~500	45~75	1~0	85~160	185~330	15	5700×2340×2020	9300
DPC1236	1200	3600	100~180	180~350	350~500	45~75	1~0	75~145	170~310	15	5230×2340×2020	8800
DPC1232	1200	3200	100~180	180~350	350~500	45~75	1~0	70~130	155~280	11	5150×2340×1980	8200
DPC1230	1200	3000	100~180	180~350	350~500	45~75	1~0	65~120	145~270	11	4880×2340×1980	7800
DPC1227	1200	2700	100~180	180~350	350~500	45~75	1~0	55~115	130~260	11	4540×2340×1980	7300
DPC1224	1200	2400	100~180	180~350	350~500	45~75	1~0	55~105	120~240	7.5	4240×2340×1980	6900
DPC1036	1050	3600	100~180	180~350	350~500	45~75	1~0	70~105	190~290	11	5360×2220×1830	6800
DPC1030	1050	3000	100~180	180~350	350~500	45~75	1~0	65~95	185~270	7.5	4830×2220×1830	6400
DPC1027	1050	2700	100~180	180~350	350~500	45~75	1~0	60~90	180~260	5.5	4480×2220×1830	5610
DPC1024	1050	2400	100~180	180~350	350~500	45~75	1~0	55~85	175~240	5.5	4220×2220×1830	5070
DPC1021	1050	2100	100~180	180~350	350~500	45~75	1~0	50~80	160~230	4	3670×2220×1830	4550
DPC1018	1050	1800	100~180	180~350	350~500	45~75	1~0	40~70	140~190	4	3440×2220×1830	4100
DPC1015	1050	1500	100~180	180~350	350~500	45~75	1~0	30~65	130~180	4	3180×2220×1830	3640
DPC1010	1050	1000	100~180	180~350	350~500	45~75	1~0	15~40	80~120	3	2680×2220×1830	2800

CTDG系列永磁大块干式磁选机

CTDG SERIES DRY PERMANENT MAGNETIC SEPARATOR FOR LUMP ORE



◆ 适用范围

磁选厂预选作业：抛除混入矿石中的废石，恢复地质品位，可节省能源，提高选矿厂处理能力。
采场：从废石中回收磁性铁矿石，提高矿石资源利用率。
钢铁厂：处理废钢渣，回收金属铁。
垃圾处理：分拣磁性金属，改善环境。

◆ 突出优点

磁感应强度高，结构先进，重量轻，运转可靠，维修方便。

◆ 产品定制

除现有定型产品外，还可根据用户特定需要设计研制不同的磁感应强度并适用各种皮带规格的永磁大块干式磁选机。

◆ Operating principle

Magnetic plant pre-separation operation: removing waste rock from mineral, recovering geological grade, saving energy, improving capability of magnetic plant.
Ore yard: collecting magnetic iron ore from waste rock to increase mineral resource utilization.
Steelworks: steel scrap disposal, recycling iron.
Waste disposal: separating magnetic metal, improving environment.

◆ Advantage

High magnetic intensity, advanced structure, light in weight, reliable operation, convenient maintenance.

◆ Customization

Except current fixed products, we could research and design separators with different magnetic intensity fitting various specifications of belt according to customers' requirements.

YCG系列永磁辊式强磁选机

YCG SERIES ROLL TYPE HIGH INTENSITY PERMANENT MAGNETIC SEPARATOR



◆ 适用范围

赤铁矿、菱铁矿、锰矿、钨矿、钽铌矿等弱磁性矿的选别。

石英砂、长石矿、耐火材料、陶瓷原料、金刚石等非金属矿物的除铁提纯。

◆ 突出优点

选用高性能钕铁硼稀土磁性材料，采取挤压式磁路设计，磁感应强度高、磁场梯度大。

耗电率低、辊内无涡流、传动功率小、不堵塞、入选粒度大、分选效率高。

机械结构先进、体积小、重量轻、占地面积小、安装方便、单机处理能力高。

◆ 产品定制

磁辊可实行积木化装配，辊径、辊长可根据分选矿物比磁化系数、粒度、处理能力的需要进行选择。

◆ Application

Separation of weakly magnetic minerals such as hematite, siderite, manganese ore, tungsten ore, tantalum niobium concentrate, and etc.

Purification and removal of iron of nonmetallic minerals like quartz sand, feldspar, refractories, ceramic raw material, diamond and etc.

◆ Advantage

With high performance NeFeB rare earth magnetic material and applying pressing method of magnetic path design, it displays high magnetic intensity and high magnetic field gradient.

Low electricity consumption, no whirlpool in the roller, low transmission power, no clogging, large input granularity, high separating efficiency.

Advanced structure, small, light in weight, low occupation area, easy installation, high stand-alone capability.

◆ Customization

Magnetic roller is capable for unitized installation. Diameter and length of roller can be adjusted according to specific susceptibility of minerals, granularity and capability requirements.

技术参数 / Technical Parameters

规格(mm) (辊径 × 分选宽度) type	磁感应强度 magnetic intensity (mT)	传动机功率 drive motor power (kw)	转速 rotation speed (r/min)	给矿粒度上限 max feed size (mm)	处理能力 capacity (t/h)	外形尺寸(mm) (长 × 宽 × 高) size	机重 weight (t)
Φ 100×500	1400	0.75	200-400	6	0.4-0.5	1200×1000×1000	0.8
Φ 100×1000	1400	1.1	200-400	6	0.7-3	1200×1500×1000	1.2
Φ 150×1000	1350	1.1	150-300	12	1.5-4	1300×1500×1000	1.5
Φ 150×1500	1350	1.5	150-300	12	2-10	1300×2000×1000	2.2
Φ 300×1000	1300	1.5	50-160	40	8-30	1500×1600×1050	2.8
Φ 350×1000	1300	1.5	50-130	50	15-45	1600×1600×1300	3.5
Φ 350×1500	1300	1.5	50-130	50	25-70	1600×2100×1300	4.2
Φ 400×1500	1300	2.2	40-120	60	30-80	1800×2100×1400	4.8
Φ 600×1000	1300	2.2	30-80	75	20-60	2000×1700×1500	5
Φ 600×1500	1300	3	30-80	75	40-100	2000×2200×1500	6

备注：① 磁辊长度可按用户需要进行任意变化，并可配置双辊、多辊，磁辊能进行变频无极调速。

Notes: ① the length of roller can be adjusted according to customer requirements, the roller can be equipped with double or multi-rollers, and can be controlled by variable-frequency stepless speed control system.

MCS系列永磁磁力脱水槽

MCS SERIES PERMANENT MAGNETIC DEHYDRATION TANK

◆ 突出优点

结构简单，无运动部件、维护操作方便、不需动力的磁选或重选脱泥、脱水分选设备。

◆ 适用范围

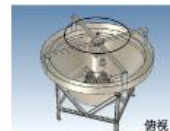
湿式细粒强磁性矿物（特别是含泥量大的矿物）的脱泥、脱水浓缩和分选。在选矿工艺流程中磁力脱水槽处于磨矿后，磁选前的脱泥和预选作业，或磁选后过滤前的脱水、浓缩作业。

◆ Advantage

With advantages of simple structure, no moving parts, convenient maintenance operation, It is a kind of powerless dehydration and desliming separation equipment used in magnetic or gravity separation.



平视



俯视

◆ Application

Concentration and separation by desliming or dehydration of wet fine particle strong magnetic minerals, especially minerals with high sediment percentage. In the process of mineral separation, a magnetic dehydration tank could be used for de-mud and pre-separation operation which is after mineral grinding and follow by magnetic separation, as well as dewatering and concentration operation which follows separation and follow by filtering.

技术参数 / Technical Parameters

型号 type	规格(mm) specification	磁感应强度(mT) magnetic intensity	台式处理能力 capacity		机重 weight (Kg)	外形尺寸 size (mm)
			干矿(t) dry ore	矿浆量(m ³) slurry ore		
MCS-12	Φ 1200	>100	25-40	70-100	1800	1470×1520×1520
MCS-16	Φ 1600	>100	30-45	80-120	2100	1865×1920×1920
MCS-20	Φ 2000	>100	35-50	95-135	2300	2065×2500×2500
MCS-25	Φ 2500	>100	40-55	110-150	2500	2650×3000×3000
MCS-30	Φ 3000	>100	45-65	120-170	2800	2950×3500×3500
MCS-35	Φ 3500	>100	55-75	150-210	3200	3200×4000×4000