

Zirconium Permanent  
Magnet Roller High  
Intensity Magnetic  
Separator 锆英永磁辊式强  
磁磁选机

**CTG-160-380-160**

**Instruction（说明书）**

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## 一、简介

永磁辊式强磁磁选机，磁源系采用高性能永久磁性材料稀土钕铁硼经聚磁组合而成，具有机型轻，磁场强度高，耗能低，性能稳定运用性广等优点。

该机在对独居石，锆英的磁选中，每磁选处理一吨锆英矿仅需耗电 2 度左右。也可用于稀土矿的磁选，能将盘式磁选机、摇床未能回收的稀土尾矿充分地回收利用。回收率可达 95%以上。在对于锆英，金红石，铌钽矿的磁选，能一次性达到分选目的。

## 二、用途

该机主要适用于：锆英、独居石、金红石、红柱石、锰矿、稀土矿、铌钽矿、褐铁矿、铬铁矿、钛矿等矿物的分选提纯石英、长石等非金属物料的除铁。

## 三、性能参数

- 1.磁场强度： $\geq 1200-16000$  高斯
- 2.处理能力：1-2 吨/小时
- 3.给矿粒度： $< 1$  毫米
- 4.磁辊直径： $\varnothing 160-\varnothing 380$  毫米
- 5.弱磁筒：1 条，强磁辊 2 条。
- 6.磁辊转速：变频控制调速。
- 7.电源：交流 380 伏三相四线。
- 8.电机功率：3Kw。
- 9.使用定额：连续

10.主机尺寸：1500\*1600\*2100mm

#### **四、结构与工作原理**

机器由机架，弱磁除铁滚筒，稀土强磁滚筒，稀土强磁磁辊，料斗，毛刷滚筒，不锈钢接料装置，电机等部件组成。

原矿物由料斗均匀地散落到除铁滚筒上，经过除铁后流到强磁滚筒上磁选出强弱磁性矿物最后再流入强磁磁辊，由于磁性矿物和非磁性矿物经过磁辊时受磁感应离心力的不同，使弱磁性矿物落入中矿斗中，中弱磁性矿通过毛刷从磁辊上刷下并落入磁性矿斗中。非磁性矿不改变运动轨迹落入前面的非磁性矿斗中。从而达到矿物的分选目的。

#### **五、安装，操作，使用**

- 1.机器在安装时，应对机器进行全面检查。
- 2.将机器水平放置落实。
- 3.机体按常规接地。
- 4.调整磁辊和毛刷之间的距离，使毛刷松紧合适。毛刷与磁辊不能调得太紧，刚好能刷下磁性矿物为宜。
- 5.转动给矿手柄，控制产量大小。
- 6.根据矿物的性质及分选情况，调节磁辊的运转速度。
- 7.转动接料装置分矿板的角度，来调整精矿品位和回收率。

#### **六、注意事项**

- 1.磁选机的安装使用请严格参照说明书规程进行。
- 2.凡未经过筛分、去除强磁物料的矿物不得进入本磁选机磁选。
- 3.因本磁选机磁力强大，强磁工具、物品请勿靠近磁辊以免发生意外。

4.毛刷磨损应立刻更换，避免磁性矿物又带回到非磁选矿物中，影响磁选效果。

5.定期检查磁辊和毛刷滚筒之间的链条松紧，以及链盘磨损程度。

6.应经常保持磁辊表面清洁，如有污物进入磁辊表面应及时清除。

## **七、特别申明**

1.磁辊不能在高温下暴晒或雨淋，否则会退磁。

2.本厂可根据用户要求，生产特殊规格的磁选机。

3.产品如因更新设计，部分尺寸或参数有更改恕不另行通知。

## **I. Introduction**

Permanent magnet roller strong magnetic separator, magnetic source is made of high-performance permanent magnetic material rare earth NdFeb by poly magnetic combination, has the advantages of light model, high magnetic field strength, low energy consumption, stable performance and wide application.

In the magnetic separation of monazite and zircon, the machine only consumes about 2 degrees of electricity for each ton of zircon ore processed by magnetic separation. It can also be used for the magnetic separation of rare earth ore, and can fully recover the rare earth tailings that can not be recovered by the disk magnetic separator and the shaking table. The recovery rate

is over 95%. In the magnetic separation of zircon, rutile, niobium tantalite, it can achieve the purpose of separation at one time.

## **II. Use**

The machine is mainly used for: Zirconite, monazite, rutile, andalusite, manganese ore, rare earth ore, niobium tantalite, limonite, chromite, titanium ore and other minerals separation and purification of quartz, feldspar and other non-metallic materials iron removal.

## **III. Performance parameters**

1. Magnetic field strength:  $\cong 1200-15000$  Gauss
2. Processing capacity: 3-5 tons/hour (T/h)
3. Feed particle size:  $<1$  mm
4. Magnetic roll diameter:  $\varnothing 160-\varnothing 380-\varnothing 160$  mm
5. Weak magnetic cylinder: 1, strong magnetic roller 1-5.
6. Magnetic roller speed: frequency conversion control speed regulation.
7. Power supply: AC 380V three-phase four-wire.
8. Motor power: 3KW.
9. Use quota: continuous

10. Dimension: 1500\*1600\*2100mm

#### **IV. Structure and working principle**

The machine is composed of frame, weak magnetic iron removal roller, rare earth strong magnetic roller, rare earth strong magnetic roller, hopper, brush roller, stainless steel receiving device, motor and other components.

The original mineral is evenly scattered from the hopper to the iron removal roller, after the iron removal flow to the strong magnetic roller magnetic separation of strong and weak magnetic minerals and finally into the strong magnetic roller, due to the magnetic induction centrifugal force of magnetic minerals and non-magnetic minerals through the magnetic roller is different, so that the weak magnetic minerals fall into the middle ore bucket, the middle weak magnetic ore brush from the magnetic roller and fall into the magnetic ore bucket. The non-magnetic ore does not change its motion path and falls into the non-magnetic ore bucket in front of it. So as to achieve the purpose of mineral sorting.

#### **V. Installation, operation and use**

1. When the machine is installed, it should be comprehensively

inspected.

2. Place the machine horizontally.
3. Ground the body as normal.
4. Adjust the distance between the magnetic roller and the brush to make the brush loose and suitable. Brush and magnetic roller can not be adjusted too tight, just brush under the magnetic mineral is appropriate.
5. Turn the feed handle to control the output.
6. Adjust the running speed of the magnetic roller according to the nature and sorting of the mineral.
7. Rotate the Angle of the receiving device to adjust the concentrate grade and recovery rate.

## **VI. Precautions**

1. The installation and use of magnetic separator should be carried out in strict accordance with the instructions.
2. Minerals that have not been screened and removed strong magnetic materials shall not enter the magnetic separation of the magnetic separator.
3. Due to the strong magnetic force of the magnetic separator, strong magnetic tools and items should not be close to the magnetic roller to avoid accidents.

4. Brush wear should be replaced immediately to avoid magnetic minerals brought back to non-magnetic separation minerals, affecting the magnetic separation effect.
5. Regularly check the tightness of the chain between the magnetic roller and the brush roller, and the degree of wear of the chain disc.
6. The surface of the magnetic roller should be kept clean regularly. If dirt enters the surface of the magnetic roller, it should be removed in time.

## **VII. Special Statement**

1. The magnetic roller can not be exposed to the sun or rain at high temperature, otherwise it will be demagnetized.
2. The factory can produce special specifications of magnetic separator according to user requirements.
3. Due to the updated design, some dimensions or parameters are subject to change without prior notice.