

Beijing HQT Mining Tech Co Ltd

北京浩沃特矿业技术有限公司

卧式离心机 Coarse Coal Centrifuge

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HQT
Process For Environment

About HOT

HOT Mining provide integrated engineering solutions to coal and mineral processing. We provide engineering, project delivery and operations services for coal, iron ore, copper, gold, zinc, silver and other base metals.

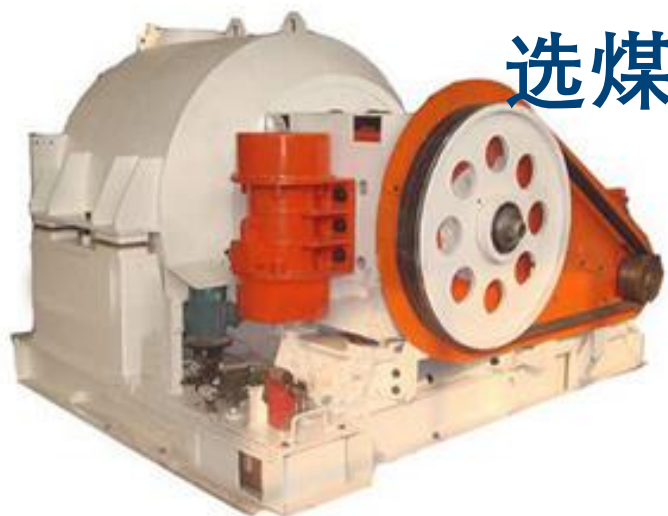
北京浩沃特矿业技术有限公司（后面简称『浩特』），致力于提供世界领先的煤矿及非煤矿山的采、选服务，服务范围包括从开采到选矿的整套工程技术服务。

Our complete process engineering solution from initial feasibility studies and engineering design (3D), to construction and operations.

服务范围：提供从项目最初的可行性研究、初步设计（三维设计）、施工图设计、工程建设直至项目建成后的托管运营承包的全程专业的技术服务。

ABOUT Our Services 专业的矿物加工技术服务

- 1. Pre-Feasibility Study, Feasibility Study, Concept Design, Engineering Design, Project Budget for Coal Preparation Projects;**
(选煤工程的可研、初步设计、施工图设计、工程概预算等)
- 2. Equipments and Spare Parts——Fans, Cyclone, Spiral, Centrifuge, Filter Press, kinds of crushers, TBS,etc;**
(部分采矿及选煤设备: 矿用风机、旋流器、螺旋、离心机、压滤机、各类破碎机、煤泥分选机等)
- 3. Operations for CHPP;**
(选煤厂托管运营管理)
- 4. Intelligent System for Mining and Coal Washery;**
(矿山智能化系统、选煤厂专家管理系统)
- 5. Materials Handling System & Express Train/Truck Loadout System.**
(长距离物料输送系统、快速火车及汽车装车系统)



选煤用离心脱水机(THC-智能卧式离心机)

Coarse Coal Centrifuge

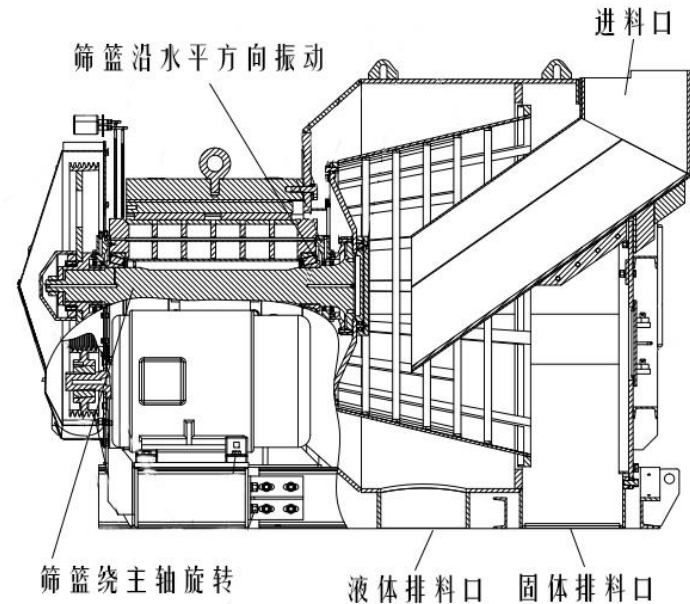
(THC-Intelligent Horizontal Centrifuge)

工作原理

Operation Principle

离心机配备有一个稍微呈锥形的筛篮，筛篮在锥体直径较大的一端开口，筛篮围绕着它的水平轴转动并同时沿水平轴的方向快速振动。

The centrifuge is equipped with a slightly tapered screen basket, which opens at one end of the larger diameter of the cone. The screen basket rotates around its horizontal axis and vibrates rapidly along the direction of the horizontal axis at the same time.



原理示意图
Schematic diagram

物料从离心机顶部给入筛篮。给矿通过筛篮的离心力压入筛篮。

The mineral was feed through the top of the machine and falls into the screen basket. and mineral feed is pressed to the basket by centrifugal force.

在此过程中，表面水从矿物中分离，并通过筛篮的小孔被强制排出。

During this process, the surface water is removed from the mineral and forced through the apertures of the basket.

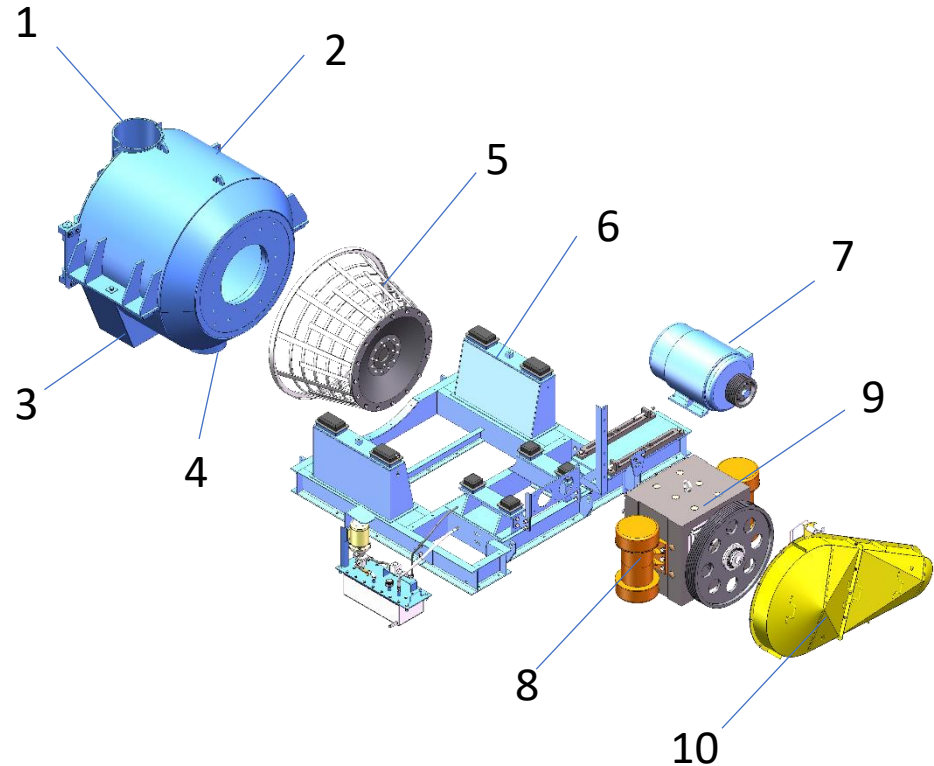
同时，矿物通过振动沿着篮的内侧输送，最后，脱水矿物从筛网中排出。

At the same time, the mineral is conveyed along the inner side of the basket by vibration. Finally, the dewater mineral was discharged out of the screen.

主要结构

Main Structure

- 1-给料口(Feeding port)
- 2-水仓部分(Water warehouse)
- 3-固体排料(Solid discharge)
- 4-液体排料(Liquid discharge)
- 5-筛篮(Screen basket)
- 6-底座支架(Base bracket)
- 7-回转电机(Rotation motor)
- 8-振动电机(Vibration motor)
- 9-激振方块(Excite vibration block)
- 10-皮带轮罩(Pulley cover)



设备特点

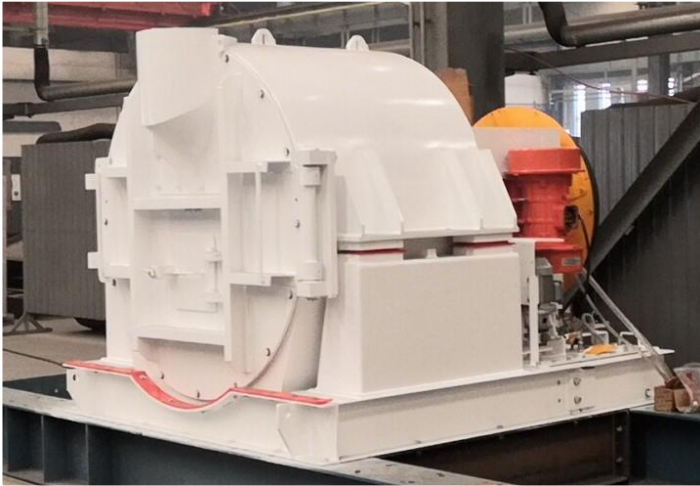
Equipment Characters

- ◆ 工作效率高，产品水分低，煤损率低
High efficiency, low moisture of product, slight damage of coal.
- ◆ 入料粒度范围宽，处理能力强
Wed range of feed size, high capacity.
- ◆ 能耗低，降低选煤厂的生产成本
Low energy consumption, to reduce the production cost of coal plant.
- ◆ 易损件少，原煤粉碎率低
Less wear part, slight smash of raw coal.
- ◆ 结构简单灵活，牢固耐用，易于维护
Simple structure, firm and durable, and easy to maintenance.
- ◆ 降低厂房高度，减少投资成本
Reduce the height of plant, and investment cost.
- ◆ 振动平衡，噪音低
Vibration balance, few noise.
- ◆ 适合当前煤炭行业实际需求的优化设计
Optimized design suitable for the actual needs of the current coal industry.



应用领域

Fields of Application



离心机不仅用于块煤脱水，还用于以下情形：

Centrifuges are used not only for coarse coal dewater, but also for the following situations:

- 煤粉(Coal Fines)
- 细粒尾矿(Fine Tailings)
- 粗煤泥水(Coarse Slurry)
- 精煤和中煤 (washed Coal & middling)
- 细砾石(Fine Gravel)
- 沙石(Sand)
- 钾盐矿(Potash dissolving residue)

产品优势

Products Advantage

相较于其他离心机，我们的产品具有以下优势：

Compared with other centrifuges, our products have the following advantages.

关键部件全部选用国际知名品牌，设备性能优良，部件耐损。

The key parts are from world-famous brand, performance well and component wear resistance.

采用两个独立工作的振动电机，激振力大，振动效果好，振幅**2~6mm**，方便可调。

Two individual vibration motor are adopted, high exciting force and effective., The amplitude is 2~6mm, and could be adjusted expediently.

聚氨酯缓冲块和减振橡胶板的使用，降低了噪音和基础的振动。

The adoption of PP bumper block and shock-absorbent rubber sheet, reduce the noise and vibration of base.

一体化设计，工作时物料通过溜槽时也参与振动，保证来料的均匀性和松散性。

The integrated design ensures the uniformity and looseness of the incoming material by means of material vibration during feeding.



旋转部件采用稀油压力强制润滑系统，该系统兼有润滑、冷却及润滑油净化三项功能。

The rotary parts adopt the pressurized lubrication system with thin oil system, which combine three functions: lubrication, cooling and lubricating oil purification.

所有易磨损部位均有聚氨酯或高铝陶瓷内衬防护，延长了设备使用寿命。

All wear parts are protected by polyurethane or high alumina ceramic lining, which prolongs the service life of the equipment.

实现设备机电一体化智能控制，轴承选用斯凯孚原装进口轴承，提高设备运行可靠性。

Realize intelligent control of mechanical & electrical integration of equipment, on-line monitoring of bearing temperature, early warning, improving the reliability of equipment operation.

电机位置及开门方向可随用户而灵活选择。

Motor position and opening direction can be flexibly selected with users.

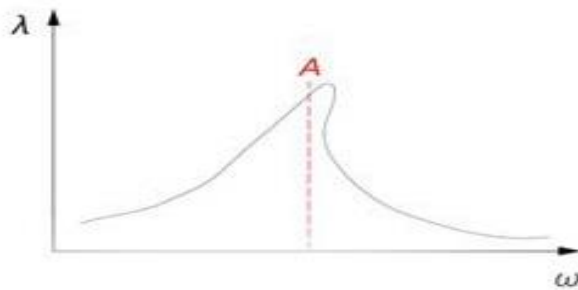


振动曲线

Vibration Curve

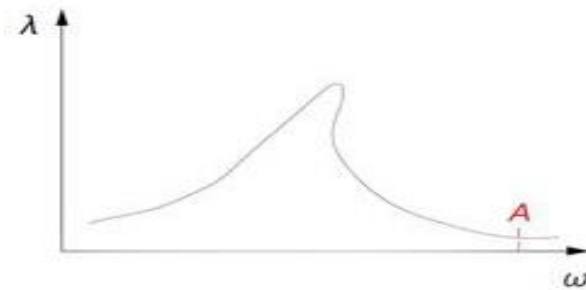
THC系列卧式振动离心机采用远共振线性振动系统，振动平稳，频率高。以下是普通离心机与THC离心机的振动系统特性曲线比较：

The THC series horizontal vibration centrifuge adopts a far resonance linear vibration system, with stable vibration and high frequency. The following is the comparison of the vibration system characteristic curves between the ordinary centrifuge and THC centrifuge.



Ordinary Vibrating Centrifuge

普通振动离心机



HTC1400 Horizontal Vibrating Centrifuge

HTC1400卧式振动离心机

通过比较，可以看出THC离心机的工作点（A点）所在区间是一段非常平缓的近似直线，其工作频率远高于自振频率，表明其对现场适应能力强，对入料的变化不敏感，振幅稳定。

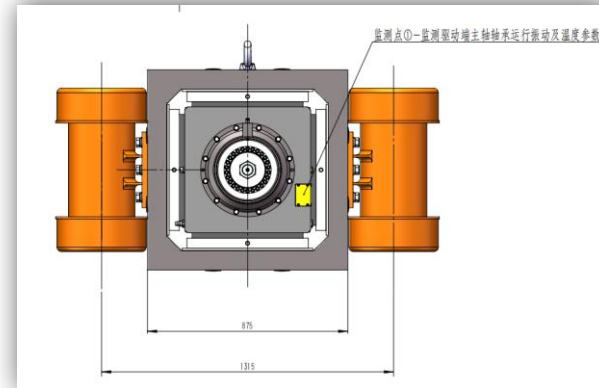
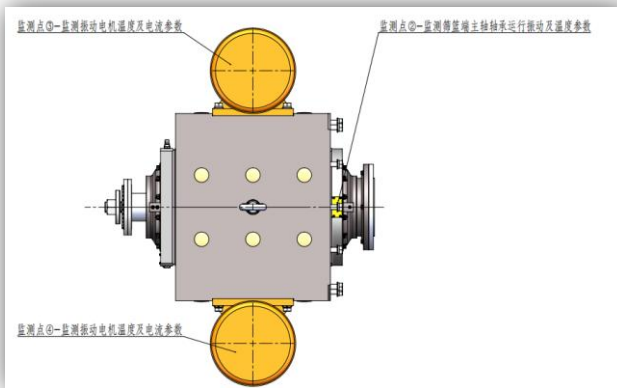
By comparing, It can be seen that the working point (point A) of THC centrifuge is a very smooth, approximate straight line, and its working frequency is much higher than the natural frequency, which shows that it has strong adaptability to the field, and it is not sensitive to the change of materials feeding, and its amplitude is stable.



预测性维护系统 Predictive Maintenance System

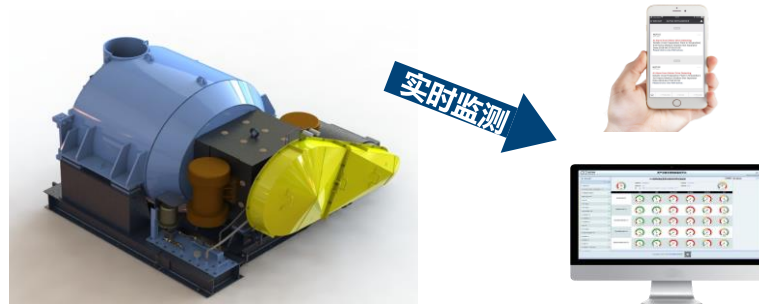
为了保证离心机的长久运行性能，阿尔法还为离心机专门定制的内置无线传感器，能实时监测离心机的核心部件的运行状态。

In order to ensure the long-term performance of the centrifuge, Alpha specially customize the built-in wireless sensor for centrifuge, which can real-time monitor the operation status of the core components of the centrifuge.



离心机的运行数据无线上传到ALPHA云，智能分析，嵌入智能算法对离心机整机做运行故障预测，实现离心机的预测性维护。提前预知故障，避免故障停机。运行数据电脑，手机微信端均可实时查看，预警报警信息实时推送。延长设备使用寿命。

The operation data of centrifuge is uploaded to ALPHA cloud wirelessly. Intelligent analysis and intelligent algorithm are embedded to predict the operation failure of centrifuge and realize predictive maintenance of centrifuge. Predict faults in advance to avoid failure downtime. The running data of the computer and the mobile WeChat can be viewed in real time, and the warning and alarm information can be pushed in real time. Extend the service life of the equipment.



固体颗粒监测系统

Solid Particle Monitoring System

实时监测离心液中固体颗粒的含量，通过分析，实时了解筛篮磨损情况。方便及时更换易损件，减少生产中的非正常停机。预警信息实时推送，生产人员能在第一时间了解信息并处理。

Real-time monitoring of solid particle content in centrifugal fluid, through analysis, real-time understanding of the screen basket wear situation. Convenient and timely replacement of vulnerable parts, reduce abnormal shutdown in production. The early warning information is pushed in real time, and the production personnel can understand the information and process it in the first time.

谢谢
THANKS

