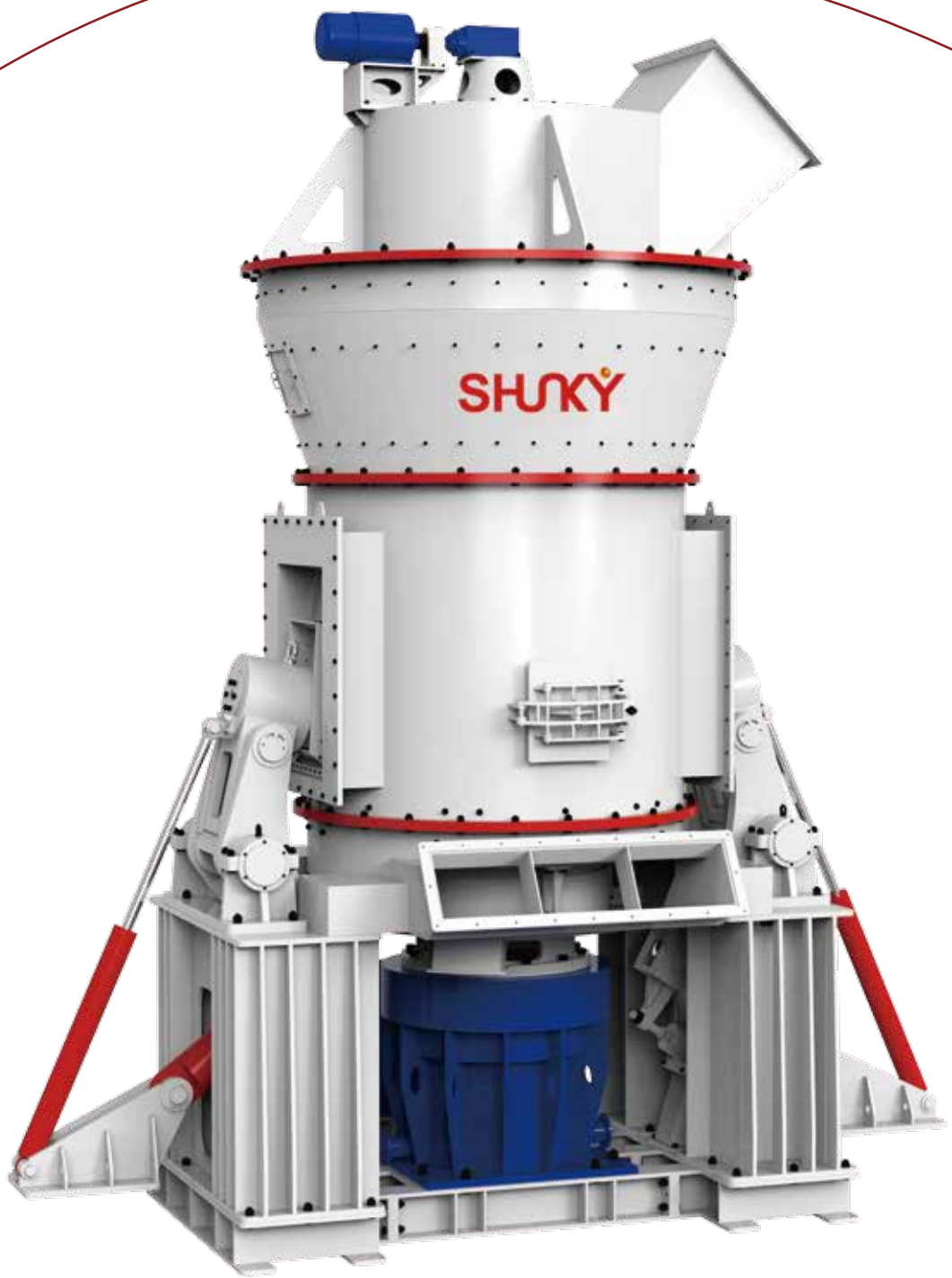
SHUKY

SRM 系列立式磨粉机

SRM Series Vertical Mill



01 产品简介
Brief Introduction

SRM系列立式磨粉机是上海山启机械制造有限公司为满足国家节能减排政策的高要求，经过多年积累并与德国研发制造立式磨粉机的资深专家及中国科研院所合作研发的高效节能磨粉机。目前，已完全具有年产达30万吨、45万吨、60万吨、90万吨及100万吨的多种矿石粉磨生产能力。 其整体结构合理，技术先进，运行稳定可靠，主要技术经济指标达到国际先进水平。

SRM vertical grinding mill is the environmental friendly vertical mill, designed by Shanghai Shunky Machinery Co.,Ltd to positively answer the call of the national energy conservation and pollutant emission reduction policy. After years of accumulations, we, in cooperation with senior experts and institutes in manufacturing vertical mill at home and abroad, developed this environmental friendly and energy-saving vertical mill. At present, the capacity of this mill has completely reached an annual output of 0.3, 0.45, 0.6, 0.9 and 1 million tons. This machine is reasonable in overall structure, advance in technology and stable in operation. Its main technical and economic indicators have reached the international advanced level.

02 系统优势 Advantages

1、磨粉效率高，能耗低：采用磨辊在磨盘上碾压磨碎物料的层压研磨方式，能耗低，与球磨系统相比节约能耗30%～40%。由于热风在磨内直接与物料接触，烘干能力强，可为立磨系统节省一台烘干机，既节省占地面积，又节约能源，且通过调节热风温度，能轻松应对不同湿度的物料。

1. High efficiency, low energy consumption: using rollers grind materials on the grinding disc directly consuming less energy. Compared with ball mill, it saves energy consumption by 30%~40%. As the hot air inside contacts directly with the material, drying ability is higher, and it saves energy. By regulating the air temperature, it can meet requirements with different humidity.

2、磨损少，磨辊磨盘可以使用3年以上：由于工作中磨辊并不与磨盘直接接触，主要靠物料与物料之间的相互挤压，研磨，且磨辊与衬板采用高铬合金(KMTBCr28Mo)耐磨材料，磨损少，使用寿命长。磨盘转速可调，可根据不同物料的硬度和成品细度进行调整。

2. Less wear and tear, lifespan of roller and roller disc is at least 3 years: As the roller is not in direct contact with the disc, and material of the roller and liner is of high quality (KMTBCr28Mo), so life lime is long and wears is less. Disc rotation speed is adjustable, it can be adjusted according to the material's hardness and final product's fineness.

3、成品细度稳定，粉体质量高。在工作过程中，磨辊和磨盘之间的间距靠液压系统进行调节和补压，当磨辊和磨盘轻微磨损后，系统会自动补压，料层稳定，成品细度及产量不会受到影响。装有防止辊套和磨盘衬板直接接触的限位装置，避免了破坏性冲击和剧烈震动，对磨机启到安全保护作用。

3. Stable products size, high products quality. In running, the gap between roller and roller disc is adjusted by hydraulic system. When rollers and roller disc are worn slightly, the system will increase the pressure automatically, which ensures the products size and capacity not to change. The caging device avoiding the direct contact of roller shell and lining plate of roller disc protects the machine from strenuous vibration and impact.

4、可连续长时间工作。采用稀油润滑，系统连续24小时开机，免维护。以石灰石为例，连续开机半年不用更换任何易损件。

4. It can be operated continuously for a long time. The thin oil lubrication makes the machine can run for 24 hours continuously without maintenance. Take limestone as example, no parts need to be changed after running half a year continuously.

5、整机结构合理，现场方便安装和维护。底座采用整体结构，磨机现场安装方便，装配精度高。

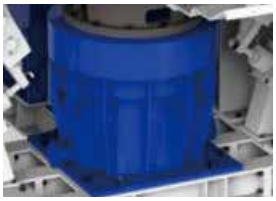
5. Reasonable structure, convenient installation and maintenance. The base adopts unibody construction which makes installation easily and assembly accurate.

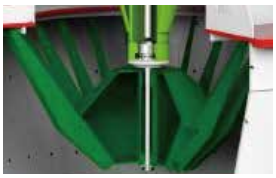
6、磨粉机系统采用智能化控制。能够自动监测系统运行状态，并对故障提示和报警，避免严重故障造成巨大经济损失。

6. Intelligent control is adopted. The system can monitor the running state automatically and alarm the breakdowns, which avoids huge economy loss caused by the breakdowns.

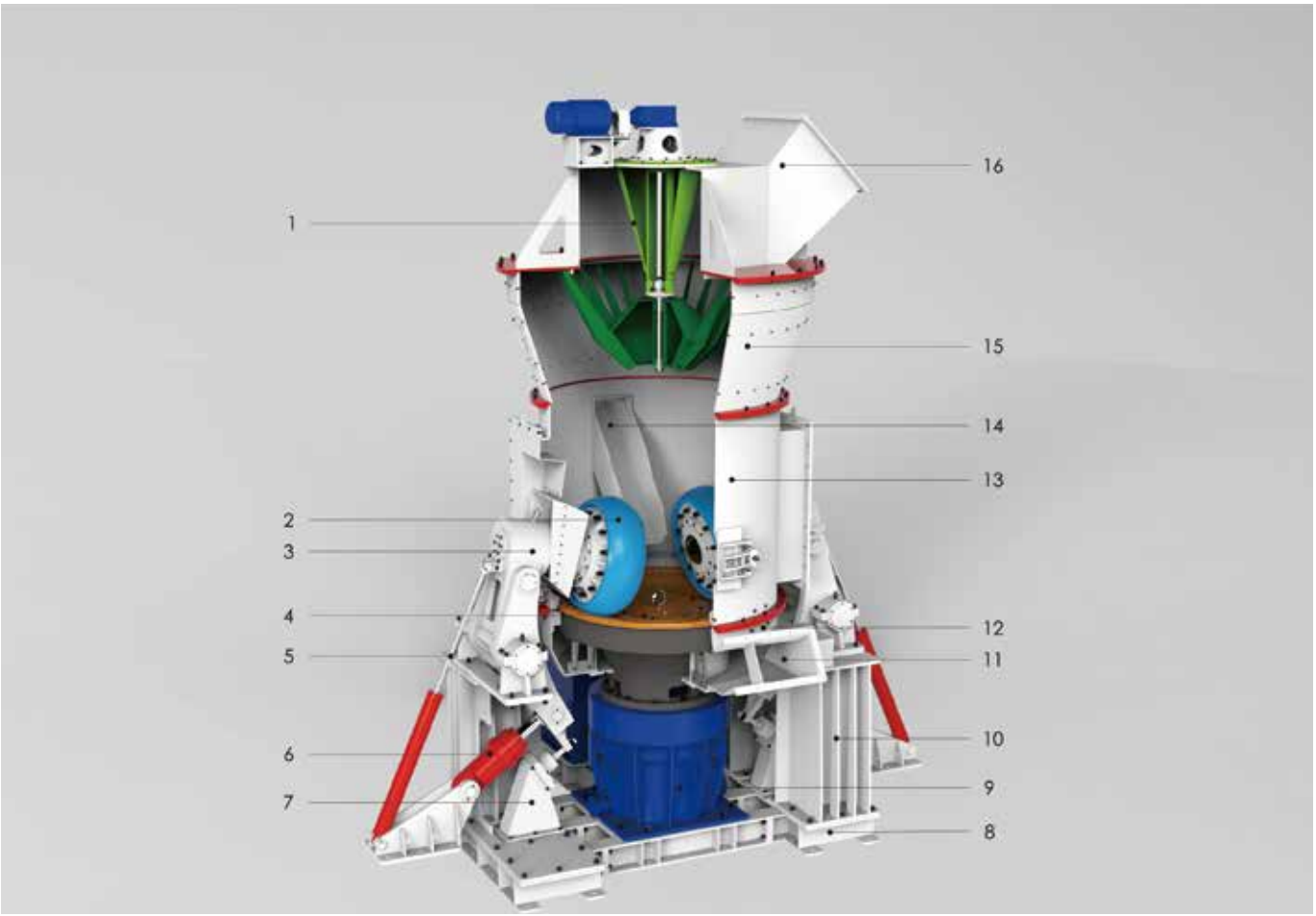
7、节能环保。物料在磨内停留的时间短，易于检测和控制产品粒度及化学成分，减少重复碾磨。配置有脉冲除尘器，全套采用空气密封，工作环境洁净无粉尘。

7. Energy-saving and environmental friendly. The materials stay for a short time in the mill reducing repeated grinding. The system is equipped with pulse dust collector, which ensures clear working environment.





03 产品结构 Internal Structure



1.选粉器
Air Classifier
2.磨辊装置
Roller Device
3.传动臂装置
Transmission Arm Device
4.磨盘装置
Grinding Table Device
5.检修缸
Repair Cylinder
6.加压缸
Pressurization Cylinder
7.限位装置
Restrainer
8.底座
Base Seat
9.减速机
Reducer
10.机架
Frame
11.进风口
Wind Inlet
12.下机体
Bottom Frame
13.中机体
Middle Frame
14.进料口
Feed Opening
15.上机体
Upper Frame
16.出料口
Discharge Opening

1.立式磨粉机系统VS辊压机球磨机联合粉磨系统

Vertical Mill System VS Roller Press Combined with Ball Mill System

立式磨粉机系统 Vertical Mill System	辊压机球磨机联合粉磨系统 Roller Press Combined with Ball Mill System
工艺流程简单（5大系统包括给料系统，立式辊磨机，外循环系统，成品收集系统及成品输送系统） Technical process is simple (Five systems include feeding system, vertical mill, outer circulation, final powder collecting system and final product transport system)	工艺流程复杂（7大系统包括给料系统、辊压机循环及半成品选粉输送，球磨机圈流循环及成品选粉、成品收集及成品输送系统） Technical process is complex (Seven systems include feeding system, roller press circulation & semi-finished powder selecting and conveying system, ball mill circulation system and final product selecting, final product collecting and final product transport system
占地面积节省30%以上 Save occupied area more than 30%	系统中用于物料循环和输送的设备多，占地面积大 Occupied area is large, as there are many circulation and conveying device in the system
系统节电30-60%以上 Power saving more than 30-60%	系统电耗高 High power consumption
负压系统，无漏粉 Negative pressure system, no powder leakage	辊压机系统循环量大，且要经过皮带机、提升运输机输送，故系统扬尘大 Dust emission is large, as roller press system circulation is large and the powder will be transported by the belt conveyor, elevator etc.
工作状态，噪音小 Lower noise under the normal running status	系统配置球磨机，故噪音大 Noisy, as there is ball mill
可以方便调节产品细度和单独粉磨不同种类的物料，如水泥熟料，煤，矿渣等 It is very convenient to adjust the product fineness and grind different kinds of material separately, such as cement clinker, coal, slag etc.	不适于水分大的原料，产品品种调节难度大，粉磨物料适应性差 It is not suitable for the material with large moisture content; adjusting the material kinds is difficult, poor adaptability.
适应含水量在15%以下的高水分物料粉磨，通过配备热风系统来调节入磨热风温度完成烘干工序，循环风的使用也提高了热量利用率 The material under the moisture content 15% can be grinded under the help of air heater system. The air heater system can adjust the inlet air temperature to finish the drying process and the circulation wind improve the heat quantity utilization	不适合水分大的掺合料粉磨，高湿物料需先进行烘干或者自然晾晒之后再进行粉磨 It is not available for the large moisture content material; high moisture content material must be dried or sun drying before being grinded
系统外循环少，外循环量小，同时辅机设备较少，由于外部设备故障导致磨机停机的概率小 The outer circulation is less, meanwhile, the attached machine is less, which will decrease the shutdown time caused by outer equipment trouble	提升机循环负荷大，系统设备多，检修点分散，检修的项目多，耗时多，外部循环设备因故障而停机的频率较高 Elevator circulation is heavy, the equipment is much, and maintenance point is scattered, the maintenance items are many, time wasting, which will increase the shutdown frequency caused by the outer equipment trouble.
系统运转率：93%-97% System running ratio: 93%-97%	系统运转率：85%-90% System running ratio: 85%-90%

2.SRM立式磨粉机与球磨机
SRM Vertical Mill VS Ball mill

SRM立式磨粉机 SRM Cement Vertical Mill	对比VS	球磨机 Ball Mill
立体结构，占地面积小，成套性强，从块料到成品粉子独立自成一个生产体系。Solid structure, small area, strong complete sets , from bulk material to finished powder is one working system.	结构对比 Structure	卧式结构，成套性不强，相互连接松散，单台占地面积大，从块状物料到成品粉子不能自成一个生产体系。Horizontal structure, complete set is not strong, the mutual connection is loose, the single station covers an large area, from the bulk material to finished powder can not be one working system.
研磨和选粉两套工序通过一个设备就可以实现，实现研磨和选粉的一体化。Grinding and selection can be achieved by one set of equipment, and realized the integration of grinding and selection.	投资对比 Cost	研磨和选粉要分别通过两个设备、两道工序来实现，增加生产线设备的投资成本。 Grinding and selection should be achieved by two sets of machines and two steps of processes, the invest cost will be increased.
耐磨件采用高铬合金耐磨材料，耐磨性能好，易损件使用时间长、效率高。 The wear resistant parts are made of high-chromium alloy wear resistant material, the whole machine has high wear resistance and running reliability。The wearing parts are long lifespan and efficient.	易损件更换对比 Spare Parts	衬板和钢球损耗大，更换频率高，成本高，且耽误生产时间，造成不必要的停产损失。The lining plate and steel ball are high consumption, the replacement frequency is high,cost is high, and delay time of production, resulting in unnecessary loss of production.
成品粉子细度均匀，通筛率可以达到99%以上。 The fineness of the finished powder is uniform, the passing rate can reach 90% or more.	成品粒度对比 Final Products Size	成品粉子细度不均匀，通筛率相对较低。The fineness of finished powder is uneven, the passing rate is relatively lower.
节能环保，噪音小。Energy saving and environmental protection, low noise.	环保对比 Environment	噪音相对较大。 The noise is relatively higher.

3.SRM 立式磨粉机与MTW欧版磨粉机
SRM Vertical Mill VS MTW Grinding Mill

SRM立式磨粉机 SRM Vertical Mill	对比VS	MTW欧版磨粉机 MTW Grinding MillMill
结构简单，故障率低 Simple Structure, and less maintenance	主机结构对比 Structure	磨辊采用垂直加压固定，故障率高 The rollers are fixed with high pressure, more maintenance cost.
具有较高的生产能力，能满足较大生产规模需求。 Large capacity, can meet large scale demands.	生产能力对比 Capacity	产量较小，只能满足较小个体投资。 Smaller capacity, and can meet the personal investment demands.
由于采用立磨专用减速机，振动小，工作稳定，停机时间短。Because of high efficient reducer, slight vibration,work steadily, the shutdown time is less.	主机停机时间对比 Shutdown time of main unit	停机时间长，有微量振动。 Longer shutdown time, and some vibrating when stop the machine.
磨辊翻出采用液压装置，方便维修和更换。Because hydraulic device for roller, so it is easy to maintain and replace the spare parts.	维修和更换易损件 Maintenance	维修和更换易损件需要较长的时间。 It will spend more time to maintain and replace the spare parts.
主机采用稀油润滑，密封好，故障率低。 The lubricating system is oil, good sealing, less fault.	润滑系统 Lubrication System	轴承采用脂润滑，温度不宜控制，故障率较高。 Grease lubricating system, and can not control the temperature well, so more faults.

05 产品应用 Application

（一）SRM矿渣立式磨粉机

1.SRM矿渣立式磨粉机系统简介

高炉矿渣(简称矿渣)是冶炼生铁时从高炉中排出的一种工业废渣，由于其具有较高的物理化学活性和潜在的水硬性，在水泥行业中广泛地作为混合材料使用。矿渣粉磨常用的设备是矿渣立磨机，主要由磨盘、磨辊、选粉机、加压装置、监视装置、传动装置、喷水系统、粗粉外循环系统等部分组成，在生产过程中，这些部件相互配合共同完成生产过程。

矿渣立磨机集细碎、烘干、粉磨、选粉、输送于一体，具有粉磨效率高、烘干能力大、产品细度易于调节、噪音小、电耗低、工艺流程简单、磨耗小、运行费用省等显著优点，非常适合于大型的粉磨工艺，主要技术、经济指标已达到国际先进水平。

（Ⅰ）SRM Slag Vertical Mill

1.Brief Introduction of SRM Slag Vertical Mill System

Blast furnace slag (slag) is an industrial slag,during iron smelting, excluded from blast furnace. Due to its high physical and chemical activition and potential hydraulicity, slag is widely used as admixture in cement industry. As commonly used slag grinding equipment, slag vertical mill mainly consists of refiner disc, roller, separator, pressing device, monitoring device, gearing device, sprinkler system and coarse powder recycling outside system, etc. These parts finish slag grinding together.

Vertical slag mill has integrated drying, grinding, separating, delivering into one. Therefore, it has so many advantages such as, high grinding efficiency, big drying capacity, flexible control on product fineness, low noise, low power consumption, simple process, less frication and saving operating cost, etc, which makes it very suitable for large-scale grinding. Its main technical, economic indicators all reached the international advanced level.

2. 工艺流程：

堆放着的矿渣由铲车取料、喂料，通过皮带机进行输送。在输送过程中，矿渣原料先后经由除铁器和振动筛得到除铁和筛分，然后通过称重设备仓、提升机进入立磨机进行粉磨。粉磨后的矿渣借助热风炉提供的热风进行烘干，通过选粉机进行选粉。符合细度要求的矿渣粉最后被输送到收尘器收集、盛放后，由空气输送斜槽、提升机进入成品库中储存。

Technological Process:

The stacking slag under the help of forklift will be transported by the conveyor belt. During the transport, the slag material will be processed by the iron-remover and vibrating screen for removing iron and screening. Then after the weight hopper, the slag will be fed into the grinding mill by elevator. Thanks to the hot air of the airheater, the material will be dried and then separated by the air classifier. The demanded slag powder will be collected by the cyclone powder collector. At last, the final powder will be stocked in storage.

（二）SRM水泥立式磨粉机

1.SRM水泥立式磨粉机系统简介

水泥立式磨粉机集粉磨、烘干、分级于一体，主要用于水泥熟料的粉磨生产。其最大的优势在于能耗低：24~27kwh/t，上海山启机械制造有限公司水泥立磨与传统球磨机相比每吨可节电30%。同时辅机设备少，一机多用，占地面积小，粉尘污染小，是新一代新型环保水泥粉磨设备，符合国家节能环保政策。

（II）SRM Cement Vertical Mill

1.Brief Introduction of SRM Cement Vertical Mill

Cement vertical mill, mainly used to process cement clinker, sets cement grinding, drying and classifying into one. Its biggest advantage is low power consumption: 24 ~ 27kwh / t. The cement vertical mill from Shanghai Shunky, compared with its traditional ball mill can save electricity 30% per ton. Meanwhile, it’s an all-in-one machine, needs less auxiliary equipment, occupies a small footprint, has less dust pollution. It is the new generation of environmental friendly cement grinding equipment in line with national energy saving policy.

04 产品应用 Application

（三）SRM煤粉立式磨粉机

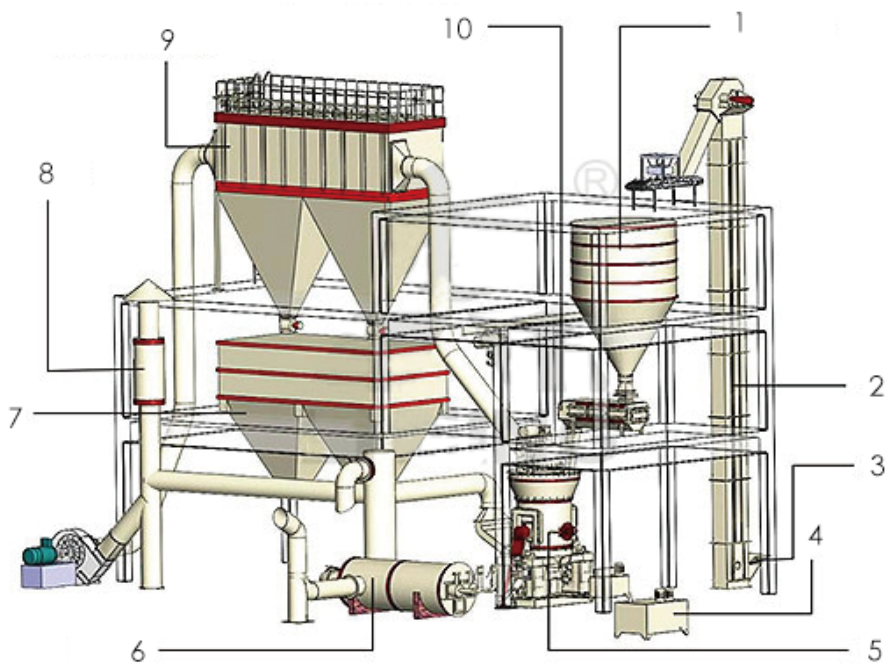
1.SRM立式煤粉磨粉机系统简介

原煤从原煤堆场通过格子筛网过筛后落到大倾角皮带输送机或提升机上，经电磁除铁器除铁后，皮带输送机或提升机把原煤送入原煤仓进行储存。待制粉系统启动后，打开原煤仓底部棒阀，启动密封计量胶带给煤机，原煤进入立式煤磨进行烘干、粉磨。由热风炉出来的热风或废气，在系统风机的抽引下，进入立式煤磨，与磨内被粉磨的原煤进行充分热交换后，带起煤粉在分离器处进行分选，细度不合格的粗煤粉重新落到磨盘上进行粉磨，合格的煤粉随气流进入防爆气箱脉冲收尘器被收集下来，经过分格轮卸入煤粉仓。原煤中的杂物，如部分煤矸石、金属块等，通过风环、吐渣口排出磨外。生产工艺中有氧气和一氧化碳检测装置，当加工挥发性较高的煤时，设置有氮气系统和二氧化碳灭火系统，安全可靠。安装防爆装置，保证安全生产。上壳体上设有防爆阀，以防止煤粉在磨内发生爆炸，确保设备安全使用。

（Ⅲ）SRM Pulverized Coal Vertical Mill

1.Brief Introduction of SRM Coal Vertical Mill System

Coal from the coal yard after being sieved by the lattice screen and then fall on large inclined angle belt conveyor or elevator. The electromagnetic removes iron, belt conveyor or elevator will send the coal into the storage hopper. The milling system has been started, then open the rod valve at the bottom of the hopper, start sealed & weighted belt feeder , raw coal goes into the vertical mill for drying and grinding. The hot air or waste gas from hot blast stove, in the fan system of pumping and goes into vertical coal mill, and fully exchanges the heat with grinding coal in the vertical mill, flow the powder to air classifier and to be separated, and unqualified coarse powder falls into the grinding table to be grinded again, qualified coal powder will goes into the explosion proof air box pulse dust collector with the airflow and being collected, through the grid round are discharged into the powder bunker. The debris in the raw coal, such as partial coal gangue, metal block, etc., will be discharged out through the wind ring, spit slag . In the process of production, there are oxygen and carbon monoxide detection device, when grinding the highly volatile coal, there is a nitrogen system and carbon dioxide fire extinguishing system, safe and reliable。Explosion proof equipment ensures safe production. Explosion-proof valve is installed in upper frame to avoid coal powders exploding in the mill.



1. 调节料仓
Adjustable Hopper
2. 斗式提升机
Bucket Elevator
3. 原料: Raw Material
4. 润滑液压装置
Lubrication Hydraulic Device
5. SRM立式磨粉机
SRM Vertical Mill
6. 热风炉
Air Heating Furnace
7. 成品仓
Final Powder Hopper
8. 消音器: Silencer
9. 脉冲式除尘器
Pulse Dust Collector
10. 封闭式定量给料机
Sealed Constant Feeder

04 产品应用 Application

（四）SRM冶金粉末立式磨粉机

钢材锻造和热轧热加工时,由于钢铁和空气中氧的反应,常会大量形成氧化铁皮,造成堆积,浪费资源.如果对这些资源合理利用,可以降低生产成本,同时可以起到环保节能作用.目前氧化铁皮可以提供给化工厂可用来生产氧化铁红、氧化铁黄、三氯化铁、硫酸亚铁等，还可以制造硅铁合金，烧结原料，制造海绵铁，可作优质的废钢原料.同时还可以粗还原法或者精还原法制造还原铁粉.

SRM系列立式磨粉机可以将破碎后小于30mm的氧化铁皮进行破碎和粉末，加工成50-325目的细粉，然后将这些细粉用于冶金或者其他用途。SRM立式磨粉机生产的成品粒型好，堆积密度高，完全符合一些高强度新型材料的要求。我公司生产的SRM系列立式磨粉机已经成功应用于粉末冶金行业，成套系统运行稳定，成品粒型好，粉磨效率高，为用户带来经济价值的同时，也成为一种新型环保设备，节约资源。

粉末冶金是制取金属粉末或用金属粉末（或金属粉末与非金属粉末的混合物）作为原料，经过成形和烧结，制造金属材料、复合材料以及各种类型制品的工艺技术。粉末冶金法与生产陶瓷有相似的地方，均属于粉末烧结技术，因此，一系列粉末冶金新技术也可用于陶瓷材料的制备。由于粉末冶金技术的优点，它已成为解决新材料问题的钥匙，在新材料的发展中起着举足轻重的作用。

粉末冶金相关企业主要是适用于汽车行业、装备制造业、金属行业、航空航天、军事工业、仪器仪表、五金工具、电子家电等领域的零配件生产和研究，相关原料、辅料生产，各类粉末制备设备、烧结设备制造。产品包括轴承、齿轮、硬质合金刀具、模具、摩擦制品等等。军工企业中，重型的武器装备如穿甲弹，鱼雷等，飞机坦克等刹车副均需采用粉末冶金技术生产。粉末冶金汽车零件近年来已成为为中国粉末冶金行业最大的市场，约50%的汽车零部件为粉末冶金零部件。

（IV）SRM Metallurgy Powder Vertical Mill

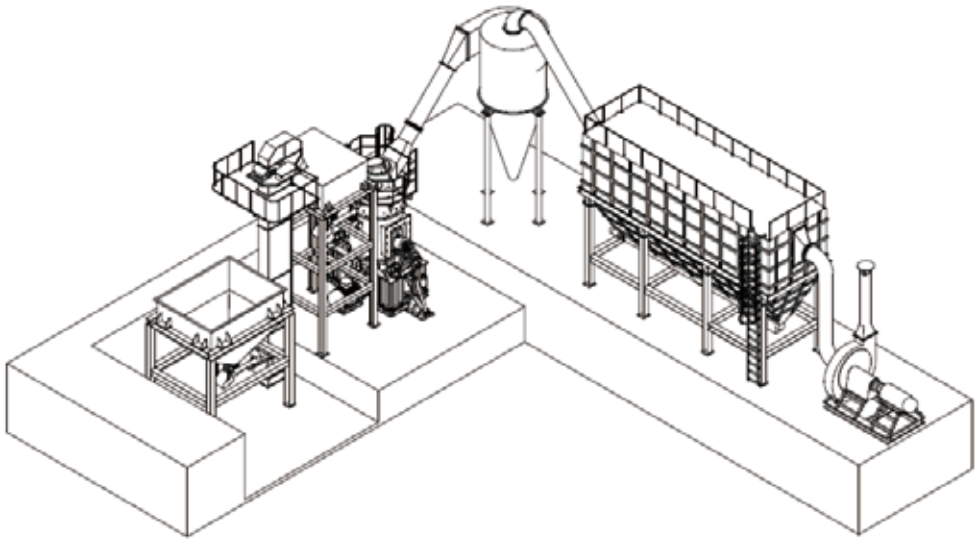
Steel forging and hot rolling processing, due to the reaction of iron and steel in the air and oxygen, often form iron oxide, these material accumulate and will waste resources. If we can use the resource reasonably , can reduce the production cost, and can play a role in energy conservation and environmental protection. At present tin oxide can provide to chemical plant can be used for producing red iron oxide, yellow iron oxide, ferric chloride, ferrous sulfate, also can produce ferrosilicon alloy, sintering raw material and producing sponge iron, high quality scrap. At the same time, it can produce iron powder by rough reduction method or refined reduction method.

SRM series vertical milling can crushing or grinding the broken iron oxide which less than 30mm, processing into 50-325 mesh fine powder, then the fine powder used in the metallurgy or other purposes. The finished grain production of SRM type vertical mill, with good shape, high bulk density, fully comply with new type material's requirements.Our company produces the SRM series vertical milling machine has been successfully applied in powder metallurgy industry, complete system stable operation, refined grain, high grinding efficiency. Bring economic value to customer, at the same time, it has also become a kind of new environmental protection equipment, saving resources.

Powder metallurgy is the process technology of making metal powder or use metal powder (or metal powder and nonmetal powder) as raw material, through forming and sintering, to make metal material, composite materials and various types of products . Powder metallurgy method is similar to the production of ceramic, are belong to the powder sintering technology. Therefore, a series of powder metallurgy new technology can also be used for the preparation of ceramic materials. As the advantages of powder metallurgy technology, it has become the key to solve the problem of new material, which plays an important role in the development of new materials.

04 产品应用 Application

Powder metallurgy related enterprises are mainly used in automobile industry, equipment manufacturing, metal industry, aerospace, military industry, instrument and meter, hardware tools, electronic appliances and other fields. Products include bearings, gears, carbide cutting tools, dies, friction products, etc. In military enterprises, heavy weaponry such as armor piercing projectiles, torpedo, etc, and so on. Powder metallurgy auto parts has become the largest market in China in recent years, about 50% of the auto parts for powder metallurgy parts.



工艺流程：

氧化铁皮还原后得到的海绵铁由装载机或皮带输送机运送至料仓，再经由振动给料机和斗式提升机进入立磨主机进行研磨。研磨后的海绵铁细粉随风机的循环风被带入选粉机进行分选，细度不合格的粗粉落入磨盘重新研磨，合格的细粉则随气流进入集粉器，经出粉管排出。余风则进入除尘器进行净化后排出。

Process Flow:

The obtained sponge iron after the iron oxide's reduction transported by loader or belt conveyor to the hopper, through the feeder and bucket elevator enter into the vertical mill host to grinding. After grinding, sponge iron fine powder with the circulating air of blower be taken to the Classifier to carry out sorting, coarse powder that cannot meet the requirement will fall into the millstone to grinding again, qualified fine powder goes with air flow enter into the powder collector and discharged by the outlet powder pipe. After winds enter into dust separator and discharged after purification.

04 产品应用 Application

（五）SRM立式磨粉机在电厂脱硫项目的应用

石灰石——石膏法脱硫工艺是世界上应用最广泛的一种脱硫技术，日本、德国、美国的火力发电厂采用的烟气脱硫装置约90%采用此工艺。将石灰石粉加水制成浆液作为吸收剂泵入吸收塔与烟气充分接触混合，烟气中的二氧化硫与浆液中的碳酸钙以及从塔下部鼓入的空气进行氧化反应生成硫酸钙，硫酸钙达到一定饱和度后，结晶形成二水石膏。经吸收塔排出的石膏浆液经浓缩、脱水，使其含水量小于10%，然后用输送机送至石膏贮仓堆放，脱硫后的烟气经过除雾器除去雾滴，再经过换热器加热升温后，由烟囱排入大气。由于吸收塔内吸收剂浆液通过循环泵反复循环与烟气接触，吸收剂利用率很高，钙硫比较低，脱硫效率可大于95% 。脱硫反应产物及未被利用的吸收剂以干燥的颗粒物形式随烟气带出吸收塔，进入除尘器被收集下来。脱硫后的烟气经除尘器除尘后排放。为了提高脱硫吸收剂的利用率，一般将部分除尘器收集物加入制浆系统进行循环利用。

（V）SRM Vertical Mill in Power Plant Desulphurization System

Desulphurization process of limestone--gypsum method is the most popular desulphurization technology in the world, which is adopted by around 90% flue gas desulfuration equipment of thermal power plants in Japan, Germany and America.

The mixture of limestone powder and water is pumped into the absorption tower mixing with flue gas adequately. Sulfur dioxide in flue gas, calcium carbonate in slurry and air from tower bottom are oxidation reaction to form calcium sulfate. And dihydrate gypsum will be formed after calcium sulfate reaching a certain degree of saturation. Gypsum, discharged from absorption tower, after concentration and dehydration, with moisture content less than 10%, is transported to gypsum pile by conveyor. After being removed the fogdrop by demister, and then heating at the help of heat exchanger, desulfurized flue gas is injected into the atmosphere.

The desulfurization rate reaches above 95%, owing to the contact of circulatory absorbent slurry and flue gas with the help of circulating pump in the absorption tower, the absorbent utilization rate is high and calcium-sulphur ratio is low. The desulfurization reaction products and unused absorbent are discharged out of absorption tower along with the flue gas in the form of dry particulate matter.

Desulphurized flue gas is exhausted after dust removal. For increasing the FGD absorbent utilization rate, part of dust inside the dust collector is added into the slurry preparing system for recycling use.

Working principle: limestone reacts with the sulfur dioxide of flue gas and lock the sulphur in the gypsum for not being exhausted into the atmosphere.

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