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通用矿山机器
GENERAL MINING MACHINERY



YGM

95B high pressure suspension grinding mill
95B型高压悬辊磨粉机

中国·矿山设备研发/生产/出口基地
China Mining Equipment R & D / Production / Export Base

使用说明书
Instructions For Use



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郑州通用矿山机器有限公司

ZHENGZHOU GENERAL MINING MACHINERY CO.,LTD

公司简介

郑州通用矿山机器有限公司，不仅是一家工业磨粉和矿山破碎制砂成套设备制造商，更是集研发、生产、销售、服务于一体，帮助中小型投资者成功运营物料破碎生产线项目的高新技术企业。2004年创立，从业近十五年来，公司不但为客户提供高性价比的破碎磨粉成套设备，还为客户提供量身定制的投资运营方案，以及整套流程的交钥匙工程。凭借专业的技术、优质的产品和至诚的服务，公司已帮助全球约9000多家用户获得快速盈利和高价值回报，并已发展成为中国矿机制造行业的标志企业。

公司总部坐落于郑州市国家高新技术产业开发区，作为新亚欧大陆桥上的重要经济中心、国家级战略“中原经济区”中心城市和全国交通、电力、通信的中央大枢纽城市，郑州市交通与通信汇合、传统与创新交融，为公司的发展创造了得天独厚的优势。

公司拥有国际先进的机械加工工艺标准、系列高端生产装备，产品全部按照ISO9001:2000国际质量体系标准进行设计、生产、制造、检测和装备。公司非常重视技术交流与合作，不断的汲取行业先进的技术和管理经验，已先后引进了德、美、日、澳等国家的先进技术和工艺，建立了国际先进的生产线和一流的现代化生产检测基地。目前公司占地80000平方米，汇集了200多名具有中高级职称的技术和管理人才，专业研发生产工业磨粉、矿山破碎及制砂选矿系列生产线设备，生产能力、工艺水平及装备实力处于行业领先水平。

公司视产品质量为企业的生命。通用机器在矿机领域稳健地走过了近十五年，始终致力于工业磨粉设备和矿山破碎设备，精工制造，如切如磋，如琢如磨。产品已通过国际ISO9001、GOST、GSG、欧盟CE认证等多项质量认证。其主要部件及易损件均采用优质的耐磨材料和先进的加工工艺，使设备经久耐磨，享誉国内外，远销俄罗斯、哈萨克斯坦、阿塞拜疆、土耳其、科威特、南非、埃及、越南、马来西亚、印度、澳大利亚、朝鲜、加拿大和欧盟等120多个国家和地区。郑州通用已成为中国矿机的专业研发、生产和出口基地。

“路漫漫其修远兮，吾将上下而求索”，我们将融匠心和智慧于实际行动，锐意进取，继续发扬“精益求精、追求卓越”的企业精神，从一点一滴做起一心一意为客户服务，助力矿山机械自动化、信息化、智能化，让中国智造通用世界矿山，不断推动人类文明进步、生态和谐发展。

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COMPANY INTRODUCTION

Zhengzhou General Mining Machinery Co.,Ltd, is not only a manufacturer of industrial grinding mill, mine crusher, sand making equipments, but also a high-tech enterprise that integrates R & D, production, sales and service to help small and medium investors successfully operate the material grinding production line projects. Founded in 2004, for more than 10 years, our company not only provides customers with cost-effective crushing and grinding equipment, but also provide tailored investment and operating programs, and the entire process of turnkey projects. With professional technology, high quality products and sincere service, our company has helped more than 9,000 users around the world get quick profit and high value return, and has developed into a symbol of China's Mining Machinery industry manufacturing enterprises.

The company is headquartered in the National Central hub city, in convergence of traffic and communication, tradition and innovation-Zhengzhou National Hi-Tech Industrial Development Zone. With the international advanced mechanical processing technology standards, series of high-end production equipment, all products are designed, manufactured, tested and equipped according to ISO9001:2000 international quality system standards. The company attaches great importance to technical exchanges and cooperation, and constantly learn from the industry's advanced technology and management experience, has introduced advanced technology and craft from Germany, United States, Japan, Australia and other countries, established international advanced production lines and first-class modern production testing base.

The company covers an area of 180,000 square meters, bringing together more than 200 technical and management personnel with senior titles, specialized in R & D and production of industrial milling, mine crushing and sand production line, production capacity, technological level and equipment strength in the industry Leading level.

Has always been committed to industrial milling equipment and mine crushing and sand equipment, elaborate manufacturing, careful scrutiny, constantly pondering, the company safely walked for nearly fifteen years in the field of mine. TYM products have passed the international ISO9001, GOST, the European Union CE certification, and a number of quality certification. General factory has become a professional development, production and export base of China Mineral Machine. The products are shining in more than 120 countries and regions such as Asia, Africa, America, Europe and Oceania.

"The way ahead is long with no ending, we 'll pursue with our unbending will". The company will continue to carry forward the enterprise spirit "excellence, the pursuit of excellence", forge ahead, to help mine machinery automation, information technology, intelligent, let China's wise creation be popular in the world mining field.

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YGM95B型高压悬辊磨粉机

YGM95B high pressure suspension grinding mill



一、适用范围

本机主要用于冶金、建材、化工、矿山等矿产品物料的粉磨加工，可粉磨石英、长石、方解石、滑石、重晶石、萤石、稀土、大理石、陶瓷、铝矾土、锰矿、铁矿、铜矿、磷矿石、氧化铁红、锆英砂、矿渣、水渣、水泥熟料、活性炭、白云石、花岗岩、石榴子石、氧化铁黄、豆饼、化肥、复合肥、粉煤灰、烟煤、焦煤、褐煤、菱美砂、氧化铬绿、金矿、红泥、粘土、高岭土、焦炭、煤矸石、瓷土、蓝晶石、氟石、膨润土、麦饭石流纹岩、浑绿岩、叶腊石、页岩、紫砂石、迭岩石、玄武石、石膏、石墨、碳化硅、保温材料等莫氏硬度在9.3级以下，湿度在6%的各种非易燃易爆矿产物料的加工。

High pressure grinding mill

The machine is mainly used in metallurgy, building materials, chemicals, mining and other mineral materials milling machining, can be grinding quartz, feldspar, calcite, talcum, barite, fluorite, rare earth, marble, ceramic, bauxite, manganese ore, iron ore, copper ore, phosphate rock, red iron oxide, zircon sand, slag, slag, cement clinker, activated carbon, dolomite, granite, pomegranate seeds, stone, iron oxide, soybean, fertilizer, compound fertilizer, fly ash, bituminous coal, cooking coal, lignite, magnetite sand, chrome oxide green, gold, red mud, clay, kaolin, coke, coal gangue, porcelain clay, kyanite, fluorspar, betonies, stone hyalites, muddy green rock, pyrophyllite, shale, purple stone, Diego rock, basalt, gypsum, graphite, thermal insulation materials, Mohs hardness below 9.3 and humidity below 6% of the various non-inflammable and explosive processing of mineral materials.

二、性能特点

- 1、与普通雷蒙磨相比，同等动力条件下产量提高20-30%，磨辊对物料碾压力在高压弹簧的作用下提高800-1200kg。
- 2、莫氏硬度小于9.3级的矿产物料均可加工粉碎。
- 3、成品粒度范围广，粒径最粗可达0.613毫米（30目）。细粉粒径一般可达0.033毫米（425目）。少部分物料最细可达到0.013毫米（1000目）。
- 4、除尘效果完全达到国家粉尘排放标准。
- 5、分析机调整方便。
- 6、研磨装置采用重叠式多级密封，密封性能好。

Specifications and Technical performance data

1. Compared to the same and other dynamic conditions with the common Raymond production increased by 10%, the grinding roller grinding pressure of the material in the high-pressure spring under is improve 1500kgf.
2. Mohs hardness of less than 9.3 mineral materials can be crushed.
3. Finished a wide range of particle size, particle size of the thickest of up to 0.95 mm (20 mesh), powder particle size Like up to 0.038 mm (400 mesh).
4. The effect of dust fully meets the national standards for dust emissions.
5. Analysis of machine is easy to adjust.
6. grinding device using overlapping multi-level seal, good sealing performance.

三、技术参数

Specifications and Technical performance data

技术参数表1 Table 1			
基本数据 Base data		单位 Unit	规格、技术数据 Specifications and Technical performance data
主机电动机 Motor of main unit	型号 Model	/	Y255M-8
	功率 Motor power	千瓦 KW	30
	转速 Rotate speed	转/分 R/min	740
分析机变频电动机 Motor of classifier	型号 Model	/	Y132M1-6
	功率 Motor power	千瓦 KW	4
	转速 Rotate speed	转/分 R/min	960
提升机电动机 Elevator motor	型号 Model	/	Y100L2-4
	功率 Motor power	千瓦 KW	3
	转速 Rotate speed	转/分 R/min	1430
鼓风机电动机 Motor of blower	型号 Model	/	Y180M-4
	功率 Motor power	千瓦 KW	22
	转速 Rotate speed	转/分 R/min	1480
颚式破碎机电动机 Motor of jaw crusher	型号 Model	PE	150 × 250 Y132S-4
	功率 Motor power	千瓦 Kw	5.5
	转速 Rotate speed	转/分 R/min	1480
电磁振动给料机 Electromagnetic vibrating feeder	型号 Model	/	GZ1F
	功率 Motor power	瓦 KW	60

注: 破碎机根据物料硬度、供料量等不同情况选不同型号。
Note: The crusher according to the different circumstances of the material hardness, supply own optional.

技术参数表2 Table 2

名称 Name	单位 Unit	规格、技术性能数据 Specifications and Technical performance data
磨辊数量 Number of rollers	个 Number	3-4
磨辊直径 × 高度 Diameter of rollers × height	毫米 MM	Ø300 × 160
磨环内直径 × 高度 Inside diameter × height	毫米 MM	Ø900 × 160
主机转速 Main unit rotation speed	转/分 R/min	150
最大进料粒度 Maximum feed size	毫米 MM	25
成品粒度 Output size	毫米 MM	0.613-0.033 (细粉可达0.013)
产量 Capacity	吨/小时 T/H	1.5-4.8
外形尺寸(长 × 宽 × 高) Overall Dimension ,length × width × height	毫米 MM	5300 × 4100 × 5200

注: 粉碎石灰石成品粒度为0.075毫米(200目)、通筛率75%条件下的标准产量。
Note: Crushed limestone (SiO₂ < 1%) of finished particle size of 0.075 mm (200 mesh) through screening rate of 75% under the conditions of the standard yield.

四、主要结构与工作原理

(一) 整机结构 (详见安装基础图)

YGM95B型高压悬辊磨粉机整套结构是由主机、分析机、管道装置、鼓风机、颚式破碎机、斗式提升机、电磁振动给料机、电控柜电机等组成。

磨粉机整机为立式结构,其特征是占地面积小,成套性强,从块料至粉料到成品粉子、包装,能独立自成一套生产体系。

磨粉机所磨制的各种粉子成品细度均匀性,能达到所需粒度的98%通过,即为通筛可达98%。这是其他磨粉设备不能胜任的。

磨粉机主机传动装置采用三角带传动,传动平稳,运转可靠,磨粉机的重要件均采用优质钢材制造,因此整机耐用可靠。

磨粉机电气系统采用集中控制,选型先进合理自动化程度高,振动给料机体积小重量轻,给料均匀,易于调节并省电。使用维修方便。

(二) 工作原理

磨粉机整机工作过程(粉磨物料过程):大块状物料经颚式破碎机破碎到所需粒度后,由提升机将物料送至储料斗,再经振动给料机将料均匀定量连续地送入主机磨室内进行研磨,粉磨后的粉子随风机气流上升。经分析机进行分级,符合细度的粉子随气流经管道进入大旋风收集器内,进行分离收集,再经出粉阀排出即为成品粉子。气流由大旋风收集器上端回风管吸入鼓风机,本机整个气流系统是密闭循环的,并且是在正负压状态下循环流动的。

在磨室内因被磨物料中有一定的含水量,研磨时产生热量导致磨室内气体蒸发改变了气流量,以及整机各管道结合处密封不严,外界气体被吸入,使循环气流风量增加,为此通过调整风机和主机间的余风管来达到气流的平衡,并将多余的气体导入布袋除尘器内,把余气带入的粉子收集下来,余气被净化后排出。

主机工作过程是通过三角带带动中心轴转动,轴的上端连接着梅花架,架上装有磨辊装置并形成摆动支点。磨辊装置不仅围绕中心轴回转,还围绕着磨环公转,磨辊本身因摩擦作用而自转。梅花架下端装有铲刀系统,其位置处理磨辊

下端, 铲刀与磨辊同转过程中把物料抛起喂入磨辊环之间, 形成垫料层, 该料层受磨辊旋转产生向外的离心力(即挤压力)将物料碾碎, 由此而达到制粉目的。

分析机通过变频电机带动转盘上的叶片旋转, 形成对粉子的分级作用。叶片转速的快慢按成品粉子粒度大小进行调节。当要获得较细粒度粉子时, 就必须提高叶片转速, 使叶片与粉子接触增加, 使不合要求的粉子被叶片抛向外边与气流脱离, 粗粉子因自重力的作用落入磨室进行重磨。合格的成品粉子通过叶片随气流吸入大旋风收集器内, 气流与粉子被分离后, 粉子被收集。

大旋风收集器对磨粉机的性能起到很重要的作用。当带粉气流进入收集器时, 是高速旋转状态。待气流与粉子分离后, 气流体壁收缩向中心移动至锥底时(自气流自然长度)形成一个旋转向上的气流圆柱, 这时粉子被分离掉落收集。由于向上旋转的气流核心成负压状态, 所以对收集器下端密封要求很高, 必须对外界空气严格隔开。否则, 被收集下的粉子会重新被核心气流带走, 这直接影响整机的质量。因此, 收集器下端装有锁粉器, 其作用是将外界正压气体与收集器负压气体隔离开, 这时一个相当重要的部件。如不装锁粉器或锁粉器的舌板吻合密封不严就会造成不出粉或少出粉, 严重影响整机质量。

The working principle and Characteristics of the whole structure

Grinding mill the whole structure by the main unit, reducer, classifier of machines, plumbing fixtures, air blower, dust collector composition. Its ancillary equipment such as jaw crusher, bucket elevator, electromagnetic vibrating feeder, cabinet composition (see the installed base map)

The whole structure characteristics:

Mill machine for the vertical structure, which is characterized by a small footprint and strong sets, from the block of material to the powder to the finished powder, packaging can be independent of its own production system.

The mill ground powder will finished fineness uniformity, can achieve the desired fineness by 98%, is through the sieve of up to 98%. This is the other milling equipment can not be competent.

Mill main unit gears with sealed gear box, transmission smooth, reliable operation, the mill are made of quality steel manufacturing, machine durable and reliable.

The mill electrical system with centralized control, selection of advanced and reasonable degree of automation. The vibrating feeder small size, light weight, feed evenly, easy to adjust and power-saving, easy maintenance.

How it works:

Mill the whole course of their work (grinding material process): the large bulk materials jaw crusher broken to the desired particle size by the elevator materials sent to the hopper, and then by the vibrating feeder uniform quantitative continuous into the grinding room for grinding, the powder after grinding and the wind machine, air rising. Classification, analysis machine to meet the fineness of the powder with the flow through pipes into the large cyclone collector for separation collection, and then exclude the powder valve is finished powder. Airflow back to the top of the large cyclone collector duct inhalation blower machine throughout the airflow system is closed loop, and the flow of positive and negative pressure state.

The mill indoor water content due to the material to be ground, grinding, heat causes the grinding room to change the gas flow rate of gas evaporation, as well as the entire pipeline junction seal lax, outside the gas is inhaled, the air circulation flow increases this duct adjust fan and host to achieve the balance of airflow, and the excess gas into the bag filter, the residual gas into the powder collection down, the residual gas to be purified to exclude.

The main unit process is reducer drive the central axis of rotation, the upper end of the shaft connection with plum frame, shelves equipped with a roller device and the formation of the swinging fulcrum. The roller device is not only around the central axis of turn around the grinding ring revolution, roller itself two rotations due to friction. Plum frame the bottom fitted with a blade system, and its location in the bottom of the roller blade and roller materials toss feed mill roll grinding ring with the transfer process between the formation of the litter layer, the material layer by the rotating grinding roller produce the outward centrifugal force (extrusion pressure) to crush the material, which reached milling purposes.

Classifier speed motor-driven blades rotating on the turntable, the formation of the role of powder sub-classification. The speed of the blade speed is to adjust the finished particle size. Midnight we must improve the speed of leaf, leaves and powders increased contact to make and the requirements of the powder will be thrown by the blade outer wall of the air flow from the meal the child due to the action of gravity fall into the mill than the fine-grained powder room for re-grinding, qualified refined powder with the air sucked into the whirlwind collector through the leaves, pink will be collected after the separation of the airflow and the powder will be. Finished diameter of greater than 0.2 mm, they shall also order the meal device or restructuring.

Large cyclone collector to play an important role in the performance of the mill, with powder flow into the collector, is a high-speed rotation, until the separation of airflow and powder sub airflow with cone wall contraction to the center move to the cone the end of time (since the airflow natural length) to form a rotating upward airflow cylinder, this time the powder will be separated fall collection. Upward rotating air core into a vacuum state, so the bottom seal of the collector demanding, strict isolation must be on the outside air, otherwise collected under the powder will be the core air flow away, which directly affect the output of the machine, so the bottom of the collector equipped with a lock of powder, its role is to isolate the external positive pressure gas collector negative pressure gas, which is a very important part, if not installed lock powder or lock pink tongue plate mild seal lax will cause no powder or less flour, seriously affecting the whole quality.

五、安装与调试

(一) 前期准备事项

1、磨粉机运到现场还未安装时, 应妥善保管, 外露表面涂上防锈油脂、并避免日晒雨淋, 以防机体生锈进水。同时要建立保养制度。

2、厂房和基础应根据基础图尺寸应有足够的高度和安装位置, 磨机基础应采用高标水泥并埋有钢筋方能浇基础, 并预埋穿线管或电缆沟。水泥基础浇好后, 必须有15天的保养期。

3、应配有1.5-2吨的起吊工具, 供安装维修用。

4、磨粉机从出厂到使用时间超过6个月者, 对主机中心轴系统、磨辊装置、分析机油池等应清洗检查, 清洗检查完毕后应对各部件加入足够的润滑油。

(二) 磨粉机的安装(详见安装示意图)

管道装置的位置和高度应按总图安装, 不得任意改动和加高, 各管道连接处应密封, 紧固后不得有漏气现象。电器设备应准确可靠, 待各部件安装完毕后应进行试机。

(三) 调试(空运转试机)

1、压力弹簧的工作高度(被压缩后的有效高度)越底, 磨辊对物料的压力也越大, 其产量也越高, 但应根据主电机的负荷情况, 随着磨辊被磨小逐渐压缩。压力弹簧的工作高度必须大于145毫米。

2、空负荷运转试机, 在无负荷试机前, 应将磨辊装置用钢丝绳包扎牢, 避免磨辊与磨环接触冲击, 然后主机空运转试机不少于1小时, 主机运转时应平稳, 轴承高温不得超过70℃, 温升不得超过35℃。主机与分析机旋转方向均为顺时针。

3、鼓风机应空载开机, 待运转正常后再加载。然后观察其运转平稳, 无异常噪音和振动, 滚动轴承最高温度不得超过70℃, 温升不得超过35℃。

4、负荷运转时间不少于8小时, 磨机工作正常后整机无异常噪音, 各管道连接处无漏风现象, 经试机后再次把各紧固螺栓拧紧, 即可投入正常使用。

Debugging and installation of the machine

The installation of the machine

1. Preparation matters

(1) Milling machines and transported to the site have not been installed, you should take good care of the exposed surfaces are coated with a rust-proof grease, and avoid the sun and rain, to prevent body rust water, we must establish a maintenance system.

(2) Plant, and the basis should be based on the basic size of the chart should be of sufficient height and installation location, the mill base should be high-grade cement and buried reinforced in order to irrigate the basis of buried and threading pipe or cable trench. Pouring the cement foundation, there must be the maintenance period of 15 days.

(3) Should be 1.5-2 tons of lifting tools for installation and maintenance use.

(4) Mill from the factory to use the time more than six months, check to host the central axis of the system, transmission device, roller device, analysis of oil tanks, etc. should be cleaned, cleaning After checking to deal with all parts and add enough grease.

2 The installation of the mill (See installation diagram)

(1) The first reducer hanging into the pit, pay attention to the control of a certain height and central location, then use the level of instrument calibration B plane, at the same time stresses the bolt into the reserve hole.

(2) Main unit installation before installing rubber shock pad (see Figure 2) between the contact points of the base of the bottom plane and the cement foundation and anchor bolt connection pad, and then use the A side of the box-type level instrument calibration base calibration points for the four-point cross crosshairs, while adjusting the speed reducer, motor correction oblique iron, its misalignment should be less than 0.1-0.3 mm, B, and C is not parallel shall be not greater than 0.3-0.5 mm gap M in the two coupling B, and C should be less 2-3 mm.

(3) The total diagram of the pipeline the location and height of the device should be installed shall be subjected to arbitrary changes and increasing the height of the pipe joints should be sealed, not a leak after fastening. Electrical equipment should be accurate and reliable, the components to be installed should be carried out after the test machine

3. Debug (air test machine)

(1) The lower one, the pressure spring height (effective height) was compressed, the greater the pressure of the roller material, its production is also higher, but should be based on the load of the main motor, with the grinding roller grinding small gradually compressed. Working height of the pressure spring should be controlled in the range of 220-230 mm.

(2) When empty load running test machine before the load test machine, the roller device should be steel Si left slag prison to avoid grinding roller and grinding ring contact with the impact, then a host empty test machine running at less than 1 hour; host running smooth, cabinets oil shall not exceed 80 ° c temperature rise shall not exceed 40 ° c. Analysis of the host machine rotation shown in Figure 3.

(3) The blower should be no-load boot, with the normal operation before loading. And then observe its smooth operation, no abnormal noise and vibration rolling bearing maximum temperature not exceeding 70 ° c temperature rise shall not exceed 35 ° c.

(4) The load operation time of not less than eight hours, the whole mill is working properly, no abnormal noise, the pipe joints leak wind phenomenon, by the test machine and then tighten the bolts tightened, you can put into regular use.

六、操作规程

(一) 开机

开动磨粉机前, 应检查所有检修门是否关闭严密, 检查破碎机的颚板间隙是否符合进料粒度尺寸, 调整分析机转速应达近似成品粒度要求。最后按以下顺序开机:

- 1、开动铲斗提升机;
- 2、开动颚式破碎机;
- 3、待料仓存有物料后, 启动分析机;
- 4、启动鼓风机 (空负荷启动, 待正常运转后再加载);
- 5、启动主机, 在启动主机的瞬间即启动电磁振动给料机。此时磨粉机工作即为开始。
- 6、操作顺序简易表示如下: “启动” → 提升机 → 破碎机 → 分析机 → 风机 → 主机 → 给料机。

(二) 停机

停机时应按下列顺序关闭各机:

- 1、先关闭给料机停止给料;
- 2、约1分钟后停止主机;
- 3、吹净残留的粉子后停止鼓风机;
- 4、最后, 关闭分析机。
- 5、停机顺序是: 给料机 → 主机 → 鼓风机 → 分析机。

(三) 注意事项:

- 1、提升机运输物料至料仓一定量后, 先停止破碎机而后停止提升机, 此项应由储料量而变动。
- 2、磨粉机在正常工作工作时不准随意加油, 要确保生产安全。
- 3、磨粉机任何部位发生不正常的声音或负荷突然增大应立即停机检查, 排除故障, 以免发生重大事故。
- 4、再继续开机时料仓内物料不许过多, 否则开机时电流过大, 影响启动。

Milling machine operating procedures

Should be checked before starting the mill, all the access door closed tight, check crusher jaw plate gap compliance with feed particle size, adjust the speed of the analyzer should be the approximate finished size requirements. Finally, in the following order to boot

- (1) Starting the bucket elevator;
 - (2) Start the jaw crusher;
 - (3) To be material warehouse material after starting of the machine;
 - (4) Start the blower (air load to start until normal operation after loading);
 - (5) Start the main unit starts electromagnetic vibrating feeder, start the main unit moment. The grinding work begins.
- Simple sequence of operations is as follows. "Start" → main unit → crusher → analyzer → blower → main unit feeder.
- Shutdown, press the close of each machine class orders:

- (1) First turn off the feeder stops feeding;
- (2) After about a minute to stop the main unit;
- (3) The wind is from the net residual powder will stop the blower;
- (4) The final closure of the Analytical Engine.

The stop order is: feeder → main unit → blower → machine.

Note: main unit for material transport to the hopper of a certain amount, the first stop the crusher and then stop the hoist, change should be based on the feeding amount of the Reserve.

Mill during normal working hours are not allowed to arbitrarily refueling, to ensure safety in production, the mill issued in any part of the normal noise, or the load suddenly increases should immediately stop checking, troubleshooting, in order to avoid a major accident. Materials are not allowed the opportunity to continue the boot too much, otherwise the power current is too large, the impact of start.

七、润滑系统 Lubricating system

润滑部位 Lubrication part	润滑形式 Lubrication form		润滑油名称 Lubrication oil	润滑点数 Lubrication Points	每次加油 时间 Interval of oil machine	备注 Remarks
	人工 Manual	油箱 Tank				
主机中心轴 Central axis of main unit	△	/	3号MOS2 复合锂基润滑脂 MOS2 compound calcium-based grease on the 3rd	2	3-4天 3-4 days	钙基润滑脂代 Calcium-based grease on behalf of
磨辊装置 Rolls	△	/		8	2班 2 class	
鼓风机轴承座 Bearing of blower	△	/		2	一个月 1 month	
分析机轴承室 Bearing of classifier	△	/		2	半个月 15 days	
提升机轴承座 Bearing of elevator	△	/		2	一个月 1 month	
提升机蜗轮箱 Turbine box of elevator	/	△	HJ-40机油 HJ-40 Engine oil	1	保持油位线 Maintain the oil level line	三个月换油一次 Change oil at 3 months

八、电器控制部分

磨粉机电动机系统控制均集中在控制柜内, 各机启动的先后应按操作程序和规程进行。本控制柜中, 除给料机外, 其余各机电机均为一般交流异步电动机。

(一) 主机、风机的启动控制

本控制系统, 对电机容量大于15KW, 采用降压启动, 小于15KW采用直接启动, 系统中风机采用星三角启动, 主机采用延边三角启动。

星三角的启动与正常运转连接, 由接触器与时间继电器组成控制线路, 自动转接, 用户可根据启动情况自行调整。时间继电器一般调整延长时间为大于6秒, 用户可根据启动情况自行调整。

(二) 振动给料机的控制

电磁振动给料机的结构原理, 电振机是一个双质点定向强迫振动系统, 由料槽连接叉衔铁所组成, 其悬挂在料仓下端并有一定的游动间隙呈自由状态, 不得有卡住或它物相碰现象, 以避免工作时噪音产生。

电振机安装后, 将作用在定位连接叉上的螺钉松开 (上三个、下一个), 松开后用螺母拧紧, 打开电振器后盖, 检查铁芯与衔铁间隙应在1.8-2.1毫米内, 并两者应平行清洁, 各螺钉应紧固, 最后将盖装上固定。

通电空载实验, 将电控箱调振幅电位器R、由小逐渐加大, 其振幅应在1.8-2.5毫米间, 电流在1.2安, 观察连续工作数小时以上振幅电流是否稳定。正常后打开料仓闸门送料, 观察其给料量电流是否稳定, 允许振幅下降0.5毫米, 如振幅电流均达额定值仍未满足给料量要求, 方将振动器吊装倾斜20°, 使之满足给料量要求。

(三) 分析机控制

分析机控制采用变频电机传动, 通过控制柜上变频器按钮来控制, 调节频率旋钮使分析机达到所需转速和所需细度 (粉子粒度) 相吻合, 依此可控制粒子的粒度。

Electrical control part

Mill motor system control are concentrated in the control cabinet, the machine to start order shall be the operating procedures and protocols. The control cabinet, in addition to the analysis machine, feeder, the rest of the mechanical and electrical machines are

generally AC asynchronous motor, the specific principle of line to see the principle of the system (Figure 5-6).

1. Main unit and Blower control system

This control system, the motor capacity is greater than 30KM buck to start, less than 30KM started directly. Host and fans buck starts, and other full voltage start.

Startup and normal operation of the star delta connection, by contact with time relay control circuit, automatic switching, the user can adjust the start situation. Time relays are generally adjusted to extend the time for greater than 6 seconds, users can adjust the start situation.

2. Vibrating feeder control system

The principle of the structure of the electromagnetic vibrating feeder, electric vibrator is a dual particle orientation forced vibration system, fork armature connected by a trough, hanging in the bottom of the silo and the swimming gap was free, without card live or collide with something else phenomenon, in order to avoid noise.

(1) Vibration machine to install the role in the positioning screw connection fork release (under three), after the release, tighten the nut to open the back cover of the electric vibration, check the core and awards gap 1.8-2.1 mm, and the two should be parallel to the cleaning, the screws should be tightening, and finally cap fixed.

(2) Power load test, electronic control box to adjust amplitude potentiometer R1 from small gradual increase in amplitude should be between 1.8-2.5 mm, current 1.2 A. An amplitude of current in continuous work for more than a few hours the stability of the normal feeding open hopper valve, observe the feeding current is stable, and allow the drop to drop to 0.5 mm, ratings such as the amplitude of current were yet to meet the feed force requirements would vibrators hoisting tilt angle of 20°, so as to meet the feeding requirements.

3. Classifier control system

Classifier controlled by JDLA speed motor drive control buttons to control the start button squirrel cage motor part of the first operation control cabinet electromagnetic slip, and then close the power switch, and adjust the speed knob to the analyzer to achieve the required speed and required fineness (powder-particle size) is consistent, in order to control the granularity of the powder will.

九、维护与保养

1、磨粉机使用过程中, 应由固定人手负责看管, 操作人员必须具备一定的技术水平, 磨粉机安装前对操作有关人员必须进行技术培训。使之了解磨粉机的原理性能。熟悉操作规程。

2、为使磨机正常工作, 应制定设备“维护保养安全操作制度”, 方能保证磨机正常安全运行, 同时要有必要的检修工具以及润滑油和配价。

3、磨机使用一段时期后, 应进行检修, 同时对磨环铲刀等易损件进行修理更换, 磨辊装置在使用前后对连接螺栓螺母均应进行仔细检查, 是否有松动现象, 润滑油是否加足。

4、磨辊装置使用时间超过500小时左右若需重新更换磨辊时, 对辊套内的各滚动轴承必须进行清洗, 对易损件应更换, 加油工具可用手动加油泵或黄油枪。

5、装拆时应注意: 主机主轴下端的两个圆螺母, 与三角带轮接触的是左旋螺纹, 外侧的是右旋螺纹。带轮与主轴为锥度配合, 以便于拆卸。磨辊下端挨着磨辊的为右旋螺纹, 外侧的为左旋螺纹, 中间圆螺母为左旋螺纹, 磨辊轴承室上端外侧的为左旋螺纹, 挨着轴承的为右旋螺纹。

Milling machine maintenance

1. Mill process, should be in charge of fixed personnel, the operator must have a certain technical level, milling machines and technical training for relevant personnel of the operation must be carried out prior to installation. To understand the principle of the mill performance, familiar with the operating procedures.

2. Should be developed equipment "maintenance, safe operation of the system" in order to ensure the mill normal safe operation, at the same time have the necessary maintenance tools and grease and accessories to make the mill work properly.

3. Mill use for some time, for maintenance, while on the roller mill ring blade and other wearing parts repair and replacement of the roller device in connection bolts and nuts shall be carefully examined before and after use. Loosening, the grease is to add a little.

4. The roller device use more than 500 hours or so, for to replace the roller, roller kit, rolling bearings must be cleaned, wearing parts should be replaced, and refueling tool can be used manual pumps or grease gun.

5. Attention should be paid when installing and dismantling: the two round nuts at the bottom of the main shaft of the main engine, the left whorl in contact with the triangular pulley, and the right whorl on the outside. The belt wheel and the spindle are conical in order to disassemble. The lower end of the grinding roller is the right-hand thread which is next to the grinding roller, the left side is the left-handed thread, the middle round nut is the left-handed thread, the outer side of the upper part of the grinding roller bearing chamber is a left-handed screw thread, and the right-handed thread is next to the bearing.

十、常见故障及排除方法 Common failures and troubleshooting

序号 Number	常见故障 Common Faults	产生原因 Causes	排除方法 Methods
1	不出粉或出粉少产量低 No powder or flour production is low	(1) 锁粉器未调整好, 密封不严造成。 (2) 铲刀磨损大物料铲不起。 (1) Lock the powder feeder is not adjusted, seal lax cause powder to suck (2) Blade wear materials shovel can not afford to	(1) 检查和调整好锁粉器密封, 发现漏气处应堵住。 (2) 更换新铲刀。 (1) Check and adjust the lock powder seal and found the leak at the blocked (2) The replacement of a new blade
2	成品粉子过粗或过细 Finished powder is too coarse or too small	(1) 分析机叶片磨损严重不起分级作用。 (2) 风机风量不适当。 (3) 分析机转速不适当。 (1) Analysis of the blades wear seriously can not afford the classification of the role of (2) Fan flow inappropriate (3) Analysis of machine speed inappropriate	(1) 更换叶片并适当关小风机进风量能解决过粗。 (2) 过细应提高进风量。 (3) 调整分析机转速。 (1) Replacement blades and properly shut small wind turbines into the wind to solve coarse (2) Too small to increase the amount of wind (3) Adjusting the analysis of machine speed
3	主机电流上升、机温上升、风机电流下降 Host current rise in machine temperature rises, the fan current drops	给料过量, 风道被粉料堵塞管道排气不畅, 循环气流发热使之主机电流、机温升高、风机电流下降。 Excess feed duct powder clogged pipe exhaust poor circulation air heating so that the host current machine temperature rise, the fan current drops	(1) 减少进料量, 清除风道积粉。 (2) 开大余风管阀门, 进机物料湿度控制在6%以下。 (1) Reduce the feed rate to clear the duct of accumulated powder (2) Open I duct valve, the aircraft materials and humidity control in less than 6%
4	主机噪音大并有较大振动 Host noise and greater vibration	(1) 进料量小或主机与传动装置不同轴, 两联轴器间无间隙, 地脚螺栓松动。 (2) 料硬冲击大或无料层。 (3) 磨辊磨环失圆变形严重。 (1) The feeding quantity is small or the host and the gear shaft, no gap between the two coupling device, the bolt loose (2) Hard material impact or non-material layer (3) Roller mill ring lost round deformed	(1) 调整进料量, 找正同轴度, 调整两联轴器间的间隙。 (2) 减少进料粒度。 (3) 更换磨辊、磨环。 (1) Adjustment to quantity, looking for positive concentricity, adjusting the gap between the two coupling (2) Reduce the feed size (3) The replacement of the grinding roller and grinding ring
5	风机振动 Fan vibration	(1) 风叶上积粉或磨损不平衡。 (2) 地脚螺栓松动。 (1) The blades of accumulated powder or wear imbalance (2) Anchor bolts loose	(1) 清除叶片积粉或更换叶片。 (2) 拧紧地脚螺栓。 (1) Clear leaves accumulated powder or replacement blades (2) Tighten the bolt
6	磨辊装置进粉轴承易损坏 Roller device into the powder, bearing fragile	(1) 缺油或密封圈损坏。 (2) 长期缺乏维修和清洗。 (3) 压盖螺栓松动。 (1) Short of oil or seal damage (2) Long-term lack of maintenance and cleaning (3) Of the gland bolts loose, the gland hole diaphragm	(1) 按规定时间加油。 (2) 定期清洗更换油封。 (3) 紧固螺栓、防止松动。 (1) Fuel at the stipulated time (2) Regular cleaning to replace the oil seal (3) Fastening bolt, prevent loosening, replacement of the gland

十一、各部轴承及易损件

Ministries bearing and wearing parts table

滚动轴承表 Bearing table				
序号 Number	型号 Model	名称规格 Name specifications	数量 Quantity	所属部件 Component
1	GB283-87	轴承N224 Bearings N224	1	主机上 On main unit
2	GB286-64	轴承21318 Bearings 21318	1	主机下 Under main unit
3	GB301-84	轴承51218 Bearings 51218	1	主机最下 In the lowest part of main unit
4	GB283-87	轴承32310 Bearings 32310	4	磨辊装置上 On roller device
5	GB297-84	轴承22314 Bearings 22314	4	磨辊装置下 Under roller device
6	GB297-84	轴承6207 Bearings 6207	1	分析机上 On the blower
7	GB297-84	轴承7207 Bearings 7207	1	分析机下 In classifier
8	GB297-84	轴承6308 Bearings 6308	4	斗式提升机 Bucket elevator
9	GB297-84	轴承7208 Bearings 7208	2	斗式提升机 Bucket elevator
				蜗轮减速机 Worm gear reducer
10	GB297-84	轴承6208 Bearings 6208	2	斗式提升机 Bucket elevator
				蜗轮减速机 Worm gear reducer
11	GB286-64	轴承22313 Bearings 22313	2	鼓风机 Blower

布管、布袋表 Cloth tube and cloth bag table			
名称 Name	规格 Specifications	数量 Quantity	材料 Material
除尘布管 Dust collection pipe	Φ160×2600	30	工业滤布或起绒面布 Industrial fabric or cloth fleece
排气连接布管 Exhaust connection pipe	Φ160×100	1	工业滤布或起绒面布 Industrial fabric or cloth fleece
帆布 Canvas	300×3500	2	0.8mm帆布 0.8mm canvas

易损件表 Wearing parts list

序号 Number	名称 Name	数量 Quantity	材料 Material	规格 Specifications
1	铲刀 Blade	4	钢板焊接 Steel plate welded	/
2	磨辊装置 Roller device	4	组装部件 Assembly of components	/
3	橡胶套 Rubber sleeve	8	专用橡胶 Special rubber	/
4	磨辊 Roller	4	ZG65Mn	/
5	磨辊轴 Roller axis	4	45号钢 No. 45 steel	/
6	横担轴 Transverse load axis	4	45号钢 No. 45 steel	/
7	磨环 Grinding ring	1	ZG65Mn	/
8	风机叶片 Fan blade	6	耐磨钢板 Wear resistant steel plate	/
9	骨架油封 Skeleton oil seal	2	主轴上端 Spindle top	130×160×15
10	磨辊下端盖 Grinding roll bottom	4	ZG35	/
11	骨架油封 Skeleton oil seal	1	主轴下端 Spindle bottom	90×110×12
12	骨架油封 Skeleton oil seal	4	磨辊下1 Grinding roll bottom 1	75×95×12
13	骨架油封 Skeleton oil seal	4	磨辊下2 Grinding roll bottom 2	75×90×12
14	骨架油封 Skeleton oil seal	4	磨辊上 Grinding roll top	60×85×12
15	密封圈 Seal ring	4	工业羊毛毡 Industrial wool felt	/
16	三角带 Vee belt	7	主机 Main unit	C-4500
17	三角带 Vee belt	4	风机 Blower	B-2240

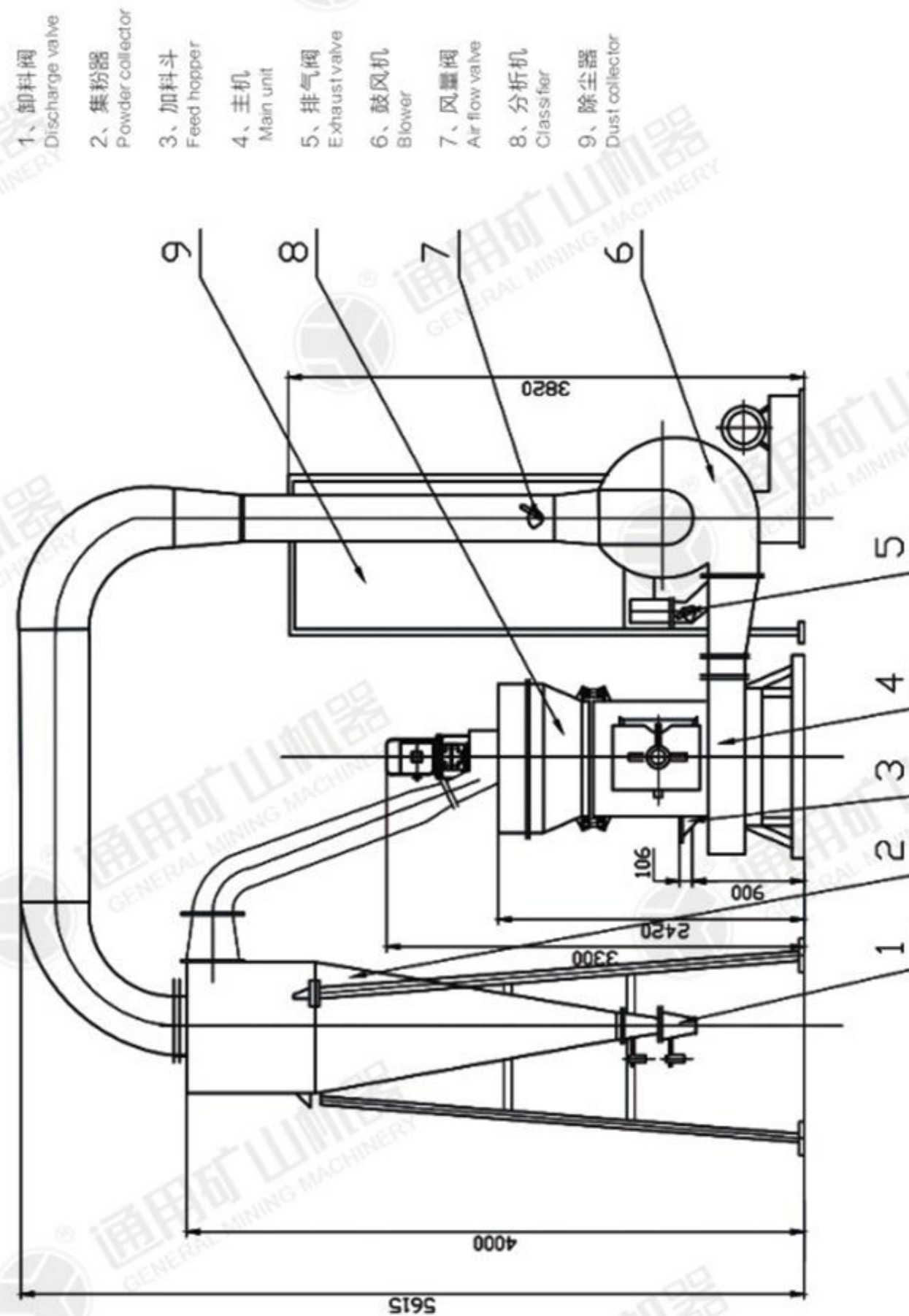
高压悬辊磨粉机(电器)客户端配线表 Client side table

设备名称 Equipment Name	设备容量 Equipment capacity	主电路客户端 Main circuit client			控制电路客户端 Control circuit client		
		端子编号 Terminal number	导线截面 Conductor cross section	根数 The number	端子编号 Terminal number	导线截面 Conductor cross section	根数 The number
提升机 Elevator	3KW	1U/1V/1W	2.5	3	/	/	/
破碎机 Crusher	5.5KW	2U/2V/2W	4	3	/	/	/
分析机 Classifier	4KW	3U/3V/3W	4	3	/	1.5	5
风机 Fan	22KW	4U1/4V1/4W1	6	6	/	/	/
		4U2/4V2/4W2					
主机 Main unit	30KW	5U1/5V1/5W1	10	6	/	/	/
		5U2/5V2/5W2					
给料机 Vibrating feeder	0.06KW	/	/	/	Y1/Y2	1.5	2
配电箱进线 Distribution box line	/	L1/L2/L3/N	3×35+1×25	4	/	/	/

备注: 所列导线截面均为铜导线, 数据供参考, 单位为mm²。
All of the conductor cross section is copper wire, the data for reference, the unit is mm².

配件 Spare parts

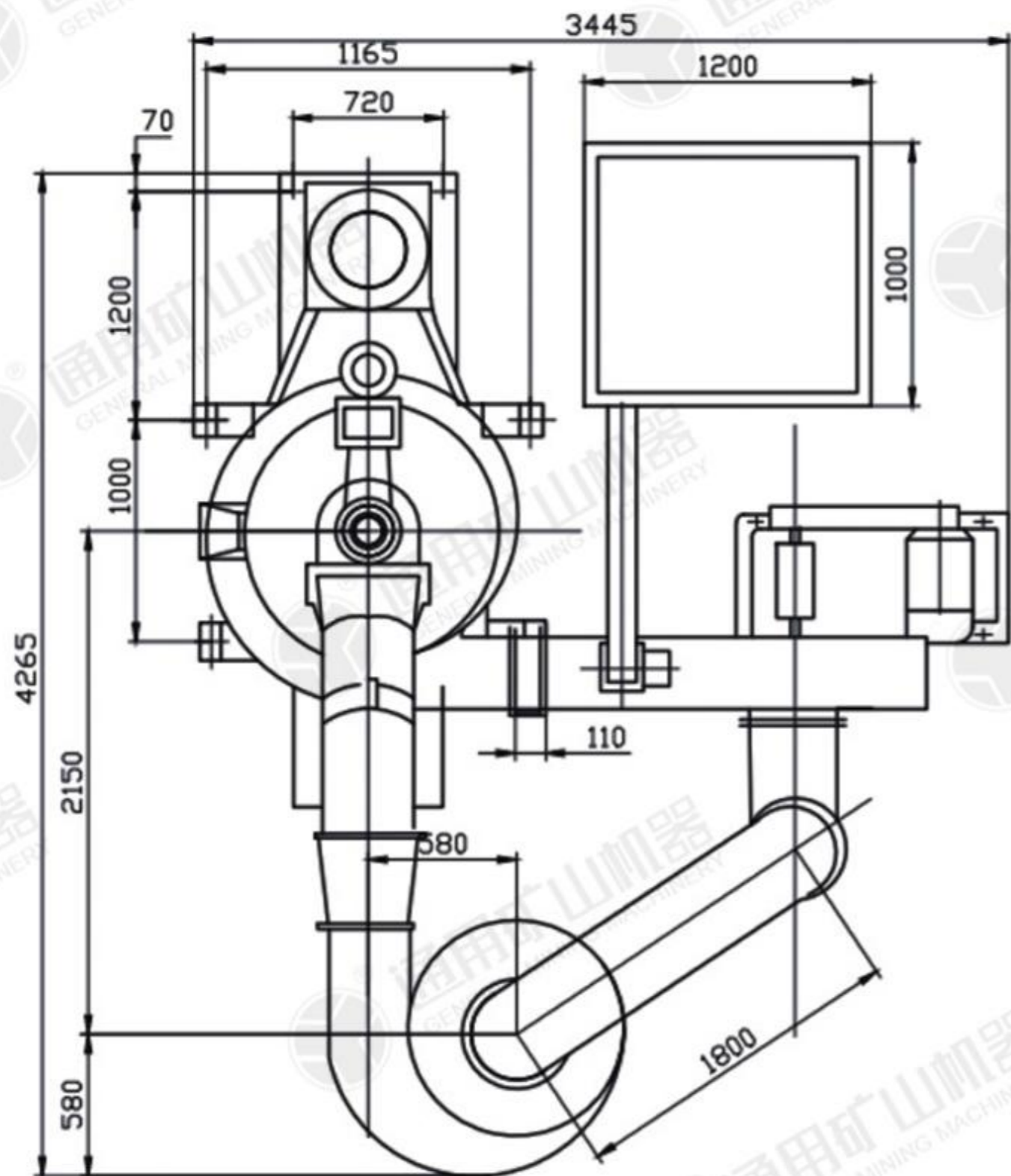
			
磨辊套下压盖 Gland	耐磨套 Bushing block	磨环 Grinding ring	磨辊套上压盖 Upper gland of roll shell
			
高压弹簧 High pressure spring	磨辊轴 Roller axis	磨辊 Grinding roller	铲刀 Shovel
			
梅花架 Rack arm	磨辊总成 Grinding roller device	立式轴座 Vertical shaft seat	铲刀架 Knife rest



十二、YGM95B 安装连接展开图
YGM95B Installation and connection expansion diagram

十三、YGM95B型磨粉机安装连接俯视图

YGM95B Installation and connection overlook diagram



十四、YGM95B型磨粉机安装基础图

YGM95B Installation basis diagram

