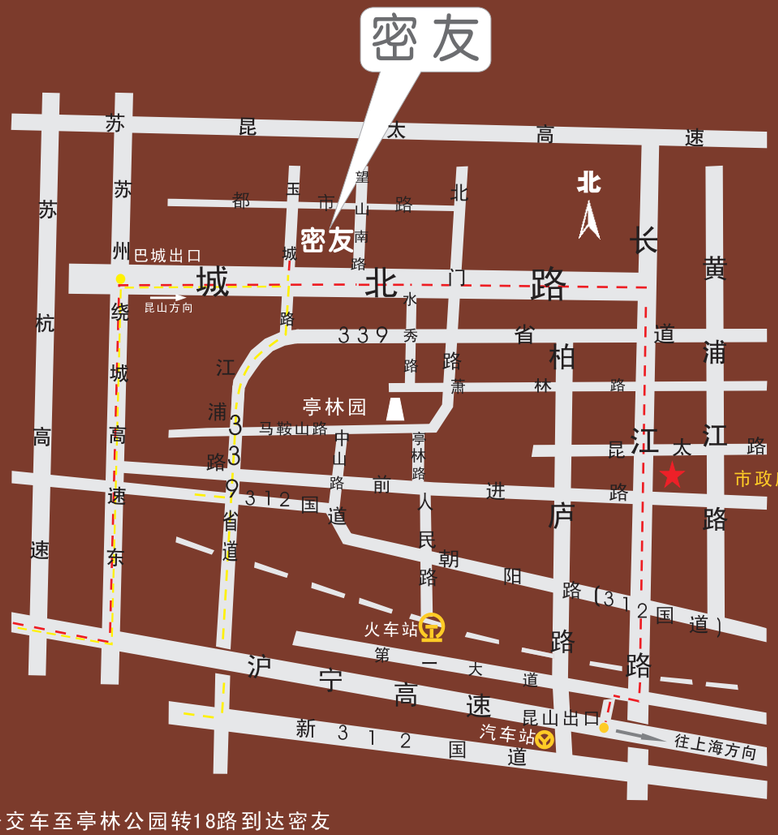
为您指路



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2. 高铁站18路到达密友
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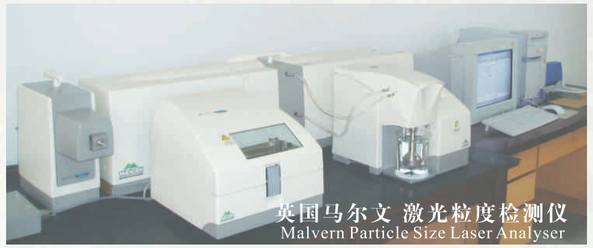
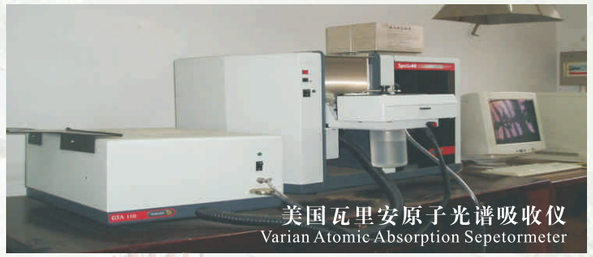
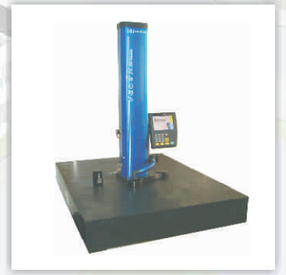
National Demonstration Projects , Nationalnew product
National torch project , National Standard Formlated Unit

密友MIYOU 国家高新技术企业





先进的三纬检测仪器
3D Measuring Instrument



瑞士进口的二次元检测仪器
quadratic elements measuring instrument imported from Switzerland

MIYOU BRAND

环保农药水悬浮剂一体化成套设备
SC formulation plant milling & mixing system

环保涂料成套装备生产线
Environmental protection Painting Production System

公司简介
Company profile

密友集团-昆山市密友装备制造有限责任公司，坐落于美丽的江南水乡—江苏昆山市，这里东接上海、西邻苏州。集团创建于1985年，是专业设计和制造粉体设备、机械密封、搅拌装置、压力容器、纳米材料的国家高新技术企业。公司总资产4.8亿，总注册资本2.18亿元，注册商标“密友”已是中国驰名商标。

公司是全国颗粒表征与分检及筛网标准化技术委员会成员单位，中国非金属矿工业协会矿物加工利用技术专业委员会常务理事长单位，中国碳酸钙工业协会副理事长单位，中国农药协会常务理事单位，粉碎行业中第一家拥有制药GMP制造许可证，气流粉碎机在行业中排名第一，被行业指定起草制定国家标准二项。

公司自创立以来，不断创新，实现了跨越式的发展，现已发展成为国内一流的粉体装备研发生产企业，可根据客户需要，设计制造专用的绿色环保智能粉碎混合系统、农药水悬浮剂一体化成套环保设备、涂料成套装备环保生产线、惰性气体保护气流粉碎系统。产品已列入国家火炬计划项目，创新基金项目，获得发明专利5项，实用新型专利28项，外观设计专利2项。

公司创新采用成熟的气流粉碎技术研发出绿色环保智能型气流粉碎混合系统，以满足农药行业，农药产品的多品种混合粉碎和再混合的特殊工艺要求，同时通过特殊设计，采用密闭循环喷淋装置操作达到生产过程无粉尘外泄，满足农药行业绿色环保要求。产品畅销全国各省、市、自治区，直辖市，出口美国、德国、法国、埃及、越南、印度、韩国、巴基斯坦、台湾等二十多个国家和地区。

公司本着质量第一、服务第一、平等互利、真诚合作的宗旨，热忱欢迎国内外客商来我公司参观指导，密友将是您永远的亲密之友。

Miyou Group was established in 1985, located in Jiangsu Kunshan Technological and Industrial Park. Miyou group owns the total assets of 480 million RMB, total registered capital of 218 million RMB. Our company is a hi-tech enterprise in Jiangsu province involving in a wide range of Pulverizer equipment, Mechanical seals, Reactors, Nano materids. Miyou owns the world first-class modern processing and testing equipment 218 sets,so as to assure the quality for our mechanical products. We've passed the certifications of ISO9001:2008, Miyou Brand has already recognized as Well-known Brand of China by the State Administration for Industry and Commerce.

The company is the characterization of particles and sorting and screen Standardization Technical Committee member units, China Non-metallic Minerals Industry Association Professional Committee of mineral processing technology of standing director unit, China Calcium Carbonate Industry Association and vice president of units, China Association executive director units, crushing industry first with the pharmaceutical GMP manufacturing license, airflow grinder in the industry ranked first, industry was designated the drafting national standards two.

The company since its inception, and constantly innovation, to achieve a leap-forward development, has become the domestic first-class powder equipment R & D and production enterprises, according to customer needs, design and manufacture of special green intelligent grinding and mixing system, inert gas protection airflow pulverizing system. Products have been included in the national Torch Program projects, the project of innovation fund, obtained 5 invention patents, 28 utility model patents, 2 appearance design patents.

The company innovation adoption mature airflow grinding technology research and development of green intelligent gas flow crushing mixing system, to meet the needs of the pesticide industry, pesticide product much breed mixes crushed and then mixed with special requirements, at the same time through special design, using the closed cycle spray device operation to achieve the production process without dust leakage, meet the green environmental protection requirements of the pesticide industry. Best selling products of the provinces, municipalities and autonomous regions, municipalities directly under the central government, export to the United States, Germany, France, Egypt, Vietnam, India, Korea, Pakistan, Taiwan more than 20 countries and regions.

The company in line with quality first, service first, equality and mutual benefit, sincere cooperation of the purpose, warmly welcome domestic and foreign merchants to visit the guidance of my company, friends will be your close friends forever.

密友MIYOU 国家高新技术企业

产品质量是密友人的生命
Quality is the life of our company

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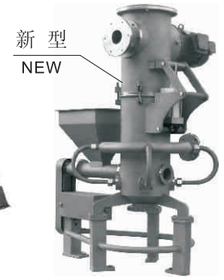
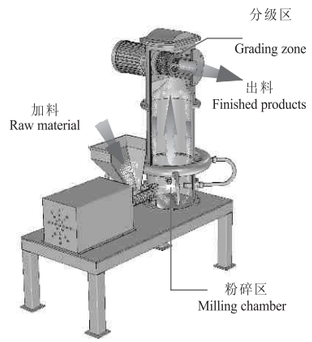
流化床气流粉碎机
Fluidized-Bed Jet Mill

专利产品，违者必究
patented product, copy not allowed





工作原理

流化床气流粉碎机是一种用高速气流来实现干式物料超细粉碎的设备。它由粉碎喷嘴、分级转子、螺旋加料器等组成。物料通过螺旋加料器进入粉碎室，压缩空气通过特殊配置的超音速喷嘴向粉碎室高速喷射，物料在超音速喷射流中加速，并在喷嘴交汇处反复冲击、碰撞，达到粉碎。被粉碎物料随上升气流进入分级室，由于分级转子高速旋转，粒子既受到分级转子产生的离心力，又受到气流粘性作用产生的向心力，当粒子受到离心力大于向心力，即分级径以上的粗粒子返回粉碎室继续冲击粉碎，分级径以下的细粒子随气流进旋风分离器、除尘器收集，气体由引风机排出。

特 点

- 不升温，由于物料是在气体膨胀状态下粉碎，所以粉碎腔体温度控制在常温状态，温度不会升高。
- 无污染，因为是物料在气流的带动下自身碰撞粉碎，不带入介质，这样在物料粉碎过程中不会构成污染。
- 磨损小，由于主要粉碎作用是粒子相互冲击碰撞，高速粒子与壁面很少碰撞，可适用粉碎莫氏硬度九级以上物料。
- 能耗低，与其它类型气流粉碎机相比节能30%～40%。
- 对易燃、易爆物料可用惰性气体作工质粉碎。

适用范围

该机广泛应用于化工、西药、中药、农药、冶金、非金属矿、电池正负极材料、滑石、重晶石、高岭土、石英、石墨、阻燃材料、陶瓷等干粉类物料的超细粉碎。

PRINCIPLE

The QYF fluidized-bed jet mill is actually such a device as using the high-speed air flow to perform the dry-type superfine pulverizing. It consists of milling nozzle,grading the screw feeder to the milling chamber, where the pressure air is activating the high-speed injection by means of special ultrasonic nozzle. Therefore, the materials will be ground by being accelerated, impacted and collided repeatedly in the midst of ultrasonic injection Flow. The ground materials will be brought together with up flow to the grading chamber. The centrifugal force produced by the fast rotation of grading rotator together with the centripetal force by the pneumatic adhesion act on the grading grains.When the centrifugal force on the grain is greater than the centripetal force,the coarser grains above the grading range will be swirled back to the milling chamber for further milling. The thinner grains below the grading range will be blasted to cyclone separator and collector, whereas the purified air will be vented outside from the draft.

FEATURES

- No rise in temperature: The temperature will not increase as the materials are pulverized under the working conditions of pneumatic expansion and the temperature in the milling cavity is kept normal.
- No contamination:The whole process is contamination-free as the materials are moved by the airflow and ground through the collision and impact among themselves without involving the media.
- Endurance:Applied to materials with Mohs' Hardness below Grade 9, since the milling effect only involves the impact and collision among the grains rather than the collision with the wall.
- Energy-effective:Saving 30%~40% over the Equivalents.
- Inert gas can be used as media for milling flammable and explosive materials.

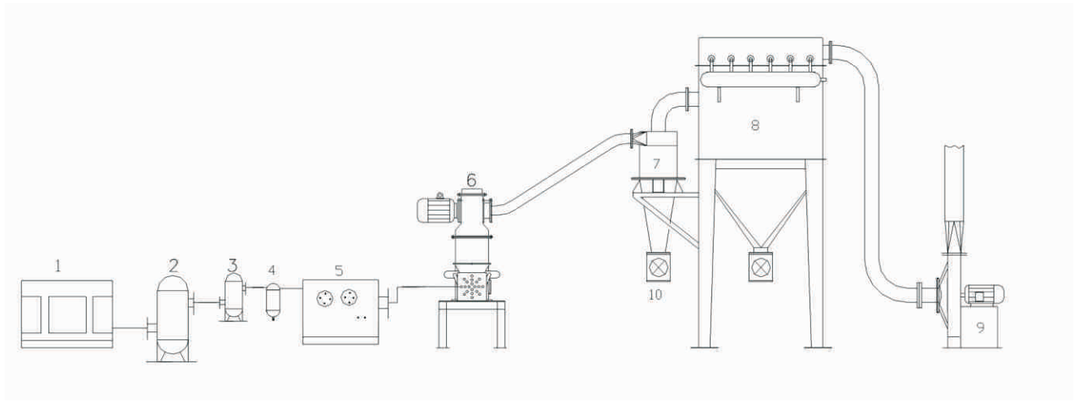
APPLICATON SCOPE

It is widely applied to superfine pulverizing for nonmetallic ores, talcum, barite, kaolin, quartz, grapite fire retardant materials, high-grade grinding media, chemical, metallurgy, western medicines, traditional Chinese medicine,agricultural chemical and ceramics, as well as for such dry powders as highly adhesive and superfine pesticides.

流化床气流粉碎机主要技术参数
Major Technical Parameters of Fluidized-Bed Jet Mill

参数 Parameter / 型号 Model	QYF-100	QYF-150	QYF-260	QYF-400	QYF-600	QYF-720	QYF-800	QYF-1000
生产能力(kg/h) Capacity(kg/h)	0.5~8	5~100	50~200	80~380	200~500	400~1000	600~2200	800~3000
空气耗量(m3/min) Air Consumption(m3/min)	1.5	3	6	10	20	40	60	80
工作压力(Mpa) Working Pressure(Mpa)	0.75~0.85	0.75~0.85	0.75~0.85	0.75~0.85	0.75~0.85	0.75~0.85	0.75 0.85	0.75 0.85
进料粒径(目) Feed Diameter(mesh)	45~150	60~325	60~325	60~325	60~325	60~325	45~200	45~200
粉碎细度(μm) Grinding Size(μm)	0.5~30	0.5~30	0.5~30	0.5~30	0.5~30	0.5~30	5~150	5~150
装机功率(kw) Energy Consumption Power(kw)	20	40	60	95	188	376	560	728

流化床气流粉碎机流程示意图
Flow Chart of Fluidized-Bed Jet Mill

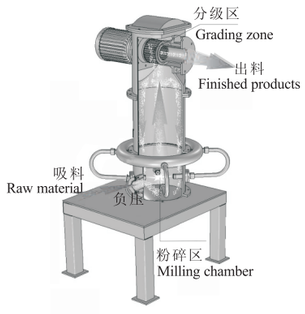


1、空气压缩机
2、贮气罐
3、高效除油器
4、精密过滤器
5、空气冷冻干燥机
6、QYF流化床气流粉碎机
7、旋风分离器
8、除尘器
9、引风机
10、星型出料阀机

1. Air compressor
2. Air storage tank
3. Oil remover
4. Precise filter
5. Air cooling drier
6. QYF fluidized-bed jet mill
7. Cyclone separator
8. Dust collector
9. Draught fan
10. Rotary Valve

实验室用台式气流粉碎机（100型）

100 Jet Mill used in Lab



生产能力(kg/h) Capacity(kg/h)	0.5~10
空气耗量(m3/min) Air Consumption(m3/min)	2
工作压力 (Mpa) Working Pressure (Mpa)	0.75~0.85
进料粒径(目) Feed Diameter(mesh)	100~325
粉碎细度(μm) Grinding Size(μm)	0.5~30
装机功率(kw) Energy Consumption Power	20

工作原理

实验室用气流粉碎机的粉碎原理是基于流化床气流粉碎原理，运用高速气流实现干式物料超细粉碎的设备。物料在高速气流中加速，并在喷嘴交汇处反复冲击、碰撞，达到粉碎效果。被粉碎物料经过分级轮分级，分离出来，由旋风分离器和除尘器收集，未达到要求的物料继续回到粉碎室粉碎，直到达到要求为止。

特 点

- 产量小，每小时 0.5～10 kg 即可，并且一次性可粉碎的物料越少越好，用户希望一次加料300g左右也能达到良好的粉碎效果；
- 易清洗，易拆卸，易安装，设备内部无死角，在使用的过程中不会因残留对样品造成污染；
- 设备粉碎时，噪音低，不会升温，不会掺入杂质，并且损耗极低；
- 占地面积小，体积小，外观简洁美观；
- 密闭性好，无粉尘，不会造成样品无谓损耗；
- 对普通性状的物料，一遍可以粉碎到1000目左右。

适用范围

该机广泛应用于西药、中药、农药、化工、冶金等干粉类物料的超细粉碎在实验室里的试样。

PRINCIPLE

Jet Mill used in Lab , whose principle is based on the principle of the fluidized-bed Jet Mill , is such a device as using the high-speed airflow to perform the dry-type superfine pulverizing . The grains are accelerated in the high-speed airflow. The materials will be ground by being accelerated , impacted and collided repeatedly in the midst of high-speed airflow . The pulverized materials are separated by the grading wheel and the required particles are separated then collected by Cyclone Separator and Collector . The coarser materials are sent back to the milling chamber for further pulverizing until they reach the required size .

FEATURES

- Low capacity, 0.5~10 kg/h, fit to be used in Lab.
- The unit is designed as a compact internal structure to perform closed circuit milling.
- No temperature rise, low unit noise, no impurity, low waste during milling.
- Small dimension, compact shape, fit to be used in Lab.
- With good air proof, ensure clean environment.
- Common particle can realize 1000 mesh by one-time milling.

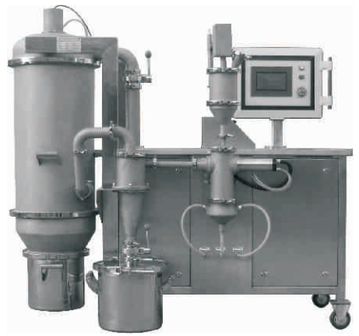
APPLICATON SCOPE

It is widely applied to superfine pulverizing for nonmetallic ores, chemical metallurgy, western medicines, traditional Chinese medicine, agricultural chemical and ceramics, fit to be used in Lab.

密友MIYOU 国家高新技术企业

实验室用台式气流粉碎机（50型）

50 Jet Mill used in Lab



生产能力(kg/h) Capacity(kg/h)	0.3~7
空气耗量(m3/min) Air Consumption(m3/min)	1.5
工作压力 (Mpa) Working Pressure (Mpa)	0.75~0.85
进料粒径(目) Feed Diameter(mesh)	100~325
粉碎细度(μm) Grinding Size(μm)	0.5~30
装机功率(kw) Energy Consumption Power	15

特 点

- 采用了高性能电机，运行稳定，转速高；对分级轮进行优化设计，并采用航空材质制作，具有高线速度，高切割精度，粒度分布窄等特点。
- 底喷嘴结构，可实现粉碎腔体内物料基本完全粉碎，残余很少。
- 采用了先进的触摸屏PLC控制系统，自动化程度高，可实现全自动操作。
- 外形美观大方，所有连接部分均采用卫生级抱箍连接，设备内壁无死角，易清洗，完全符合GMP要求。

FEATURES

- High-performance motor is used here for its high rotating speed and stable running. Also, the classifier wheel is designed to an optimization made of aircraft material, so it has the advantages of high line speed, high cut precision and narrow particle size distribution.
- We have designed bottom nozzles so that the material in the grinding chamber can be milled as thoroughly as possible to make the remains less.
- Advanced PLC control system is adopted so as to achieve full automatic operation.
- It has a beautiful and dignified shape, all connection parts are connected by sanitation anchor ears, so it is easy to clean the equipment. Our equipment completely conforms to GMP standard.

实验室用台式气流粉碎机流程示意图

Flow Chart of Jet Mill used in Lab

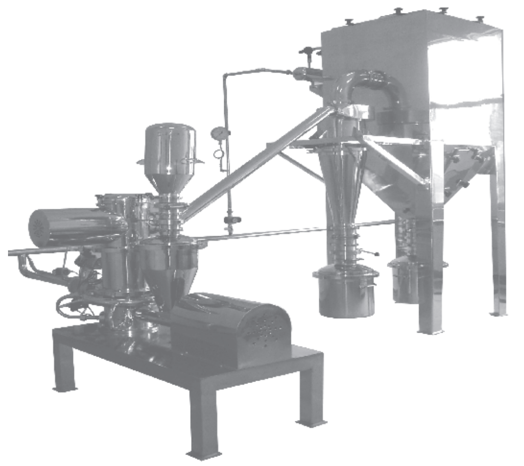
1、空气压缩机
2、贮气罐
3、精密过滤器
4、空气冷冻干燥机
5、除菌过滤器

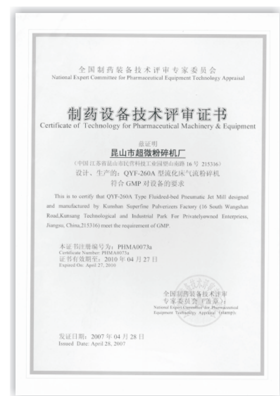
1. Air compressor
2. Air storage tank
3. Precise filter
4. Air cooling drier
5. Sterilization filter

6、QYF流化床气流粉碎机
7、旋风分离器
8、除尘器
9、引风机

6. QYF fluidized-bed jet mill
7. Cyclone separator
8. Dust collector
9. Draught fan

符合GMP要求的气流粉碎机组
Jet Mill unit certificated by GMP




制药设备技术评审证书
Certificate of Technology for Pharmaceutical Machinery & Equipment

工作原理

首先采用刀式粗碎机对中药原料初加工，然后进行二次冲击细碎，最终送入GMP气流粉碎机进行超细粉碎。物料在气流粉碎室内的数个喷嘴产生的高速气流冲击下，相互碰撞、相互摩擦、瞬间破裂，实现超细粉碎，通过内置分级机的分选，合格产品随气流排出，进入旋风分离器、除尘器收集，粗颗粒返回粉碎室继续粉碎，气体由引风机排出。

特 点

• 适用于干式超细粉碎工艺，由于气流速度高，冲击力大， 可生产出0.5~10微米的粉体颗粒。

• 药物粉体在气流膨胀工况下粉碎，不会升温，适用于热敏性、低熔点、含糖份及有挥发性物料的超细粉碎。

• 设备设计完全按照GMP 要求。

a.通过气源三级过滤（粗过滤、精密过滤、除菌过滤）、全系统密闭粉碎、材质选用、粉碎过程物料自身碰撞粉碎，以及采用特殊设计，杜绝油进入，实现粉碎物料和环境的无污染。

b.采用国内首创、国际领先的自动化、智能化控制系统，实现精确控制粉碎过程，保证粒度分布窄、且均匀。

c.设备结构简单，内、外壁光洁度高，无死角，易清洗。

适用范围

该机组适用于各种中药、西药、保健品、化妆品等物料的超细粉碎。

PRINCIPLE

The raw materials of traditional Chinese medicine are initially processed from the knife type coarse crusher,then followed by secondary impact and fine crushing, and finally fed into the jet mill for GMP micronized pulverization.The high-speed airflow impact arising from several nozzles in the pneumatic pulverizing chamber enables the materials to collide and abrade each other, fracture instantly and achieve the purpose of micronized pulverization. After being sorted from the classifier, the conformable products will be discharged with airflow and then fed into the cyclone separator and collected by the collector.The coarse particles are fed back to the coarse crusher for continuous pulverization and the gas will be exhausted from the induced draft fan.

FEATURES

• This unit is classified into two categories, normal temperature pulverization technology. The 0.5~10 micron powder particles (500 ~10,000nanometers) can be produced as a result of extremely high airflow speed and tremendous impact force.

• Classifying devices are available inside the pulverizer, through which the coarse particles from the processing materials can be cyclically pulverized to produce finished products with uniform grain fineness and small range of particle diameters.

• This unit is so designed and structured under the appeal of GMP. The airflow is extremely pure with filtering process. Compact internal structure to perform the closed circuit milling. From raw materials to continuous production of finished products, the pulverization requires very short time but yields higher efficiency and continuous operation.

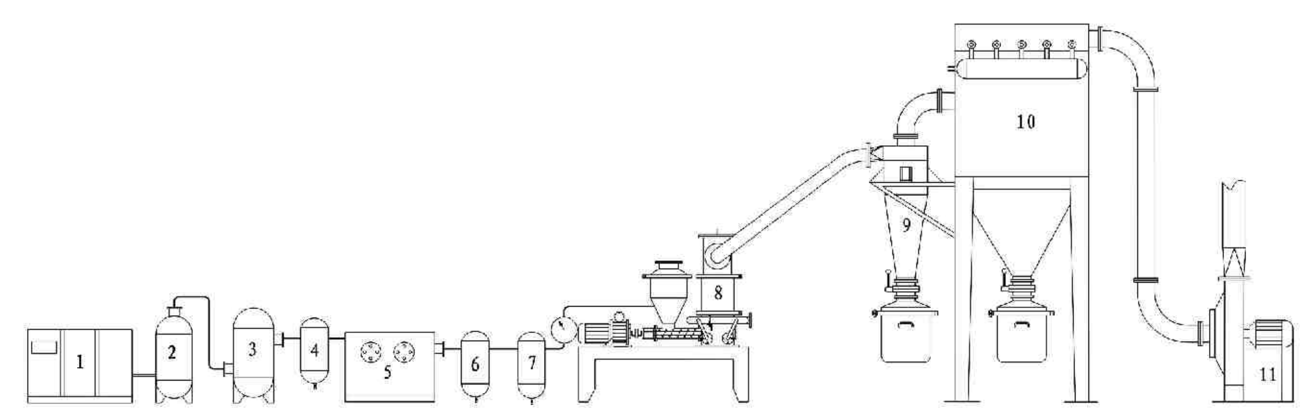
APPLICATON SCOPE

This unit applies to micronized pulverization of a wide variety of traditional Chinese medicines, western medicines, and health food.

符合GMP要求的气流粉碎机组主要参数
Major Technical Parameters of Jet Mill unit certificated by GMP

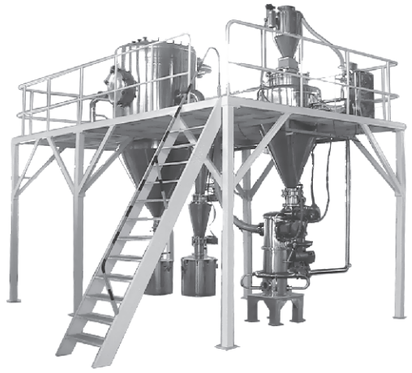
型号 Model / 参数 Parameter	QYF-100	QYF-150	QYF-260	QYF-400	QYF-600
生产能力(kg/h) Capacity(kg/h)	0.5~10	5~100	50~200	80~380	200~500
空气耗量(m^3/min) Air Consumption(m^3/min)	2	3	6	10	20
工作压力(Mpa) Working Pressure(Mpa)	0.75~0.85	0.8~1.5	0.8~1.5	0.8~1.5	0.8~1.5
进料粒径(目) Feed Diameter(mesh)	100~325	60~120	60~120	60~120	60~120
粉碎细度(μm) Grinding Size(μm)	0.5~30	0.5~30	0.5~30	0.5~30	0.5~30
装机功率(kw) Energy Consumption Power(kw)	20	40	60	95	188

符合GMP要求的气流粉碎机组流程示意图
Flow Chart of Jet Mill unit certificated by GMP



1、空气压缩机 1. Air compressor
2、贮气罐 2. Air storage tank
3、高效除油器 3. Oil remover
4、粗过滤器 4. Rough filter
5、空气冷冻干燥机 5. Air cooling drier
6、精密过滤器 6. Precise filter
7、除菌过滤器 7. Sterilization filter
8、气流粉碎机 8. Jet mill
9、旋风分离器 9. Cyclone separator
10、除尘器 10.Dust collector
11、引风机 11. Draught fan

惰性气体保护粉碎机系统
Inert Gas Protection Jet Mill System



工作原理

惰性气体保护粉碎机系统是采用惰性气体作为气流粉碎研磨介质实现干式物料的超细粉碎。该系统主要由压缩机、储气罐、料仓、粉碎主机、旋风分离器、捕集器、自动化控制柜等组成。系统开机时首先用惰性气体不断充入系统中将空气赶走，直至全系统达到氧探测仪设定的数值，然后自动启动加料装置将料仓中的原料均匀加入粉碎主机的粉碎室，经压缩的惰性气体通过特殊配置的超音速喷嘴向粉碎室高速喷射，物料在超音速喷射流中加速，并在喷嘴交汇处反复冲击、碰撞，达到粉碎效果。被粉碎的物料随上升气流进入分级室，进不了分级轮返回粉碎室继续冲击粉碎，满足要求的细粒子进入分级轮随气流被旋风分离器、除尘器收集，惰性气体返回压缩机吸气口，通过压缩机作用，使其气体压缩循环使用。

特 点

- 适用性强，根据易燃易爆物料的性质，可选择与其相适应的气体作为粉碎介质。
- 惰性气体循环使用，消耗极小。
- 惰性气体纯度的误差可控制在1PPM，其含量可任意设定。
- 磨损小，由于主要粉碎作用是粒子互相冲击碰撞，高速粒子与壁面很少碰撞，可适用粉碎莫氏硬度九级以上物料。
- 粉碎范围广，在d_{97}=2～15μm范围任意选用。
- 系统可采用先进的触摸屏、可编程PLC控制器，实现了全自动控制。

适用范围

该系统适用于易燃 易爆、易氧化的物料，广泛应用于西药、中药、农药、化工、金属、稀有金属等行业的超细粉碎。

PRINCIPLE

The inert gas protection jet mill system uses inert gas as media for pneumatic milling to perform dry-process superfine pulverzation. The jet mill system mainly consists of compressor, air storage tank, material storage tank, jet mill, cyclone separator, collector and automatic controller. When the system is activated, inert gas will be released into the system to drive the air out till the whole system reaches the numerical value fixed by the oxygen detector. Then the system will automatically start the material feeding device to feed the materials evenly into the milling chamber of the jet mill. The compressed inert gas is injected at a high speed into the milling chamber by means of special ultrasonic nozzle. Therefore, the materials will be ground by being accelerated, impacted and collided repeatedly in the midst Of ultrasonic injection flow. The ground materials will be brought together with up flow to the grading chamber. They cannot enter the grading wheel and will be swirled back into the milling chamber for further milling. The thinner grains will enter the grading wheel and be blasted to cyclone separator and collector whereas the inert gas will return to the compressor, through which it will be compressed for recycling.

FEATURES

- Wide application: different inert gas can be used as the media to suit the particular flammable and explosive material.
- The recycling of inert gas causes little loss.
- The purity error of inert gas can be controlled within 1PPM, while the content of oxygen can be fixed at any rate.
- Endurance: Since the milling effect only involves the impact and collision among the grains rather than the collision with the wall, it is applicable to materials with Mohs's Hardness above Grade 9.
- Wide grading range: d_{97} = 2～15μm
- Fully automatic control could be realized as such advanced technology as touch-sensitive screen and programmable PLC controller are used in the unit.

APPLICATION SCOPE

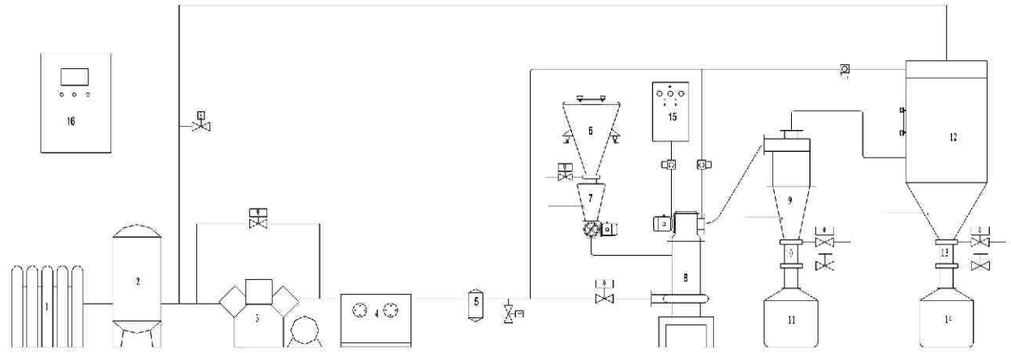
The unit applies to pulverize flammable, explosive and easily oxidative materials and is widely applicable to such field as western medicine, traditional Chinese medicine, agricultural chemical, chemical industry, metal and rare metal industry.

密友MIYOU 国家高新技术企业

惰性气体保护粉碎机系统主要技术参数
Major Technical Parameters of Inert Gas Protection Jet Mill System

参数 Parameter / 型号 Model	QBF-150	QBF-260	QBF-400	QBF-600	QBF-720
生产能力(kg/h) Capacity(kg/h)	5~25	15~80	30~180	60~400	120～800
惰性气体耗量(m^3/h) Air Consumption(m^3/h)	20~30	30~40	30~40	40~50	50~80
工作压力(Mpa) Working Pressure(Mpa)	0.75~0.85	0.75~0.85	0.75~0.85	0.75~0.85	0.75～0.85
进料粒径(目) Feed Diameter(mesh)	60~325	60~325	60~325	60~325	60～325
粉碎细度(μm) Grinding Size(μm)	0.5~30	0.5~30	0.5~30	0.5~30	0.5～30
装机功率(kw) Energy Consumption Power(kw)	33	53	88	173	346

惰性气体保护粉碎机系统流程示意图
Flow Chart of Inert Gas Protection Jet Mill System

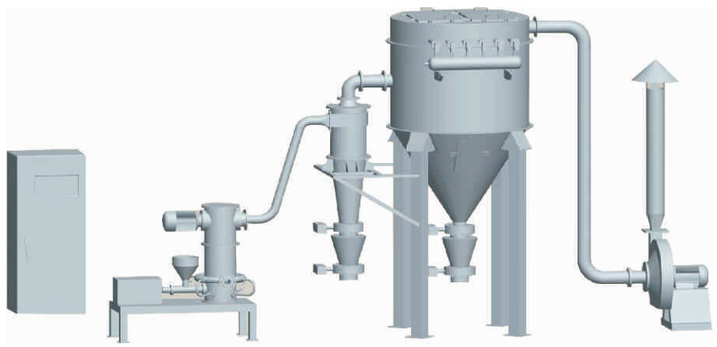


1、氮气源
2、储气罐
3、氮气压缩机
4、空气冷冻干燥机
5、空气过滤器
6、原料仓
7、过渡原料仓
8、QBF流化床气流粉碎机
9、旋风分离器
10、13 过渡成品料筒
12、除尘器
11、14 成品料筒
15、气路控制系统
16、操作终端、在线检测中心

1. Nitrogen gas source
2. Air storage tank
3. Nitrogen gas compressor
4. Air cooling drier
5. Air filter
6. Material storage tank
7. Transitional material storage tank
8. QBF fluidized-bed jet mill
9. Cyclone separator
10.13. Transitional products storage tank
12. Dust collector
11.14. Finished goods tank
15. Circuit distributing system
16. Man-machine interface

电子级材料专用流化床气流粉碎机

Fluidized–bed jet mill specially for Electronics materials



工作原理

流化床气流粉碎机是一种用高速气流来实现干式物料超细粉碎的设备。它由粉碎喷嘴、分级转子、螺旋加料器等组成。物料通过螺旋加料器进入粉碎室，压缩空气通过特殊配置的超音速喷嘴向粉碎室高速喷射，物料在超音速喷射流中加速，并在喷嘴交汇处反复冲击、碰撞，达到粉碎。被粉碎物料随上升气流进入分级室，由于分级转子高速旋转，粒子既受到分级转子产生的离心力，又受到气流粘性作用产生的向心力，当粒子受到离心力大于向心力，即分级径以上的粗粒子返回粉碎室继续冲击粉碎，分级径以下的细粒子随气流进旋风分离器、除尘器收集，气体由引风机排出。

特 点

• 精密陶瓷涂层，100%杜绝物料粉碎过程中带来的铁污染。保证粉碎物品纯度。特别适用于对铁含量要求极高的电子材料。如钴酸锂、锰酸锂、磷酸铁锂、磷酸亚铁锂、三元材料、四氧化三钴、碳酸锂、镍钴酸锂等电池正极材料。

• 不升温，由于物料是在气体膨胀状态下粉碎，所以粉碎腔体温度控制在常温状态，温度不会升局。

• 磨损小，由于主要粉碎作用是粒子相互冲击碰撞，高速粒子与壁面很少碰撞，可适用粉碎莫氏硬度九级以上物料。

• 能耗低，与其它类型气流粉碎机相比节能30%～40%。

• 对易燃，易爆物料可用惰性气体作工质粉碎。

PRINCIPLE

The QYF fluidized—bed jet mill is actually such a device as using the high¬speed air flow to perform the dry-type superfine pulverizing. It consists of milling nozzle,grading the screw feeder to the milling chamber, where the pressure air is activating the high¬speed injection by means of special ultrasonic nozzle. Therefore, the materials will be ground by being accelerated, impacted and collided repeatedly in the midst of ultrasonic injection Flow. The ground materials will be brought together with up flow to the grading chamber. The centrifugal force produced by the fast rotation of grading rotator together with the centripetal force by the pneumatic adhesion act on the grading grains.When the centrifugal force on the grain is greater than the centripetal force.the coarser grains above the grading range will be swirled back to the milling chamber for further milling. The thinner grains below the grading range will be blasted to cycloneseparator and collector, whereas the purified air will be vented outside from the draft.

FEATURES

Precision ceramic coatings, 100% eliminate the iron pollution from material classification process to assure the purity of the products. Especially suitable for iron content requirements of the electronic materials, such as cobalt high acid , lithium manganese acid, lithium iron phosphate, Ternary Material, lithium carbonate, and Acid lithium nickel and cobalt etc battery cathode material.

No rise in temperature: The temperature will not increase as the materials are pulverized under the working conditions of pneumatic expansion and the temperature in the milling cavity is kept normal.

Endurance:Applied to materials with Mohs1 Hardness below Grade 9, since the milling effect only involves the impact and collision among the grains rather than the collision with the wall.

Energy-effective:Saving 30%~40% over the Equivalents.

Inert gas can be used as media for milling flammable and explosive materials.

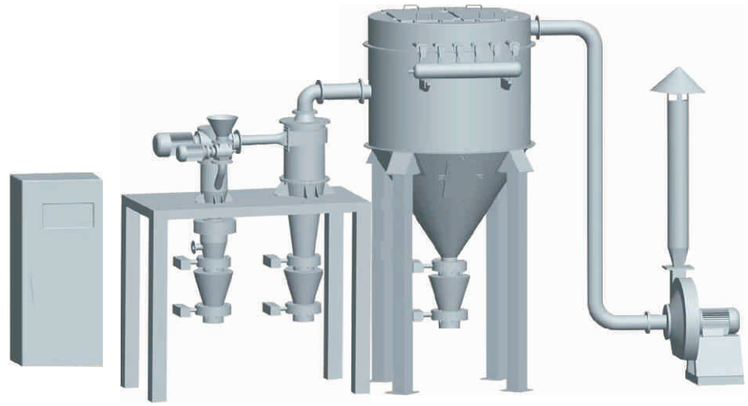
主要技术参数

Technical Parameter

参数 Parameter / 型号 Model	QYF-100	QYF-150	QYF-260	QYF-400	QYF-600	QYF-720	QYF-800	QYF-1000
生产能力(kg/h) Capacity(kg/h)	0.5~8	5~100	50~200	80~380	200~500	400~1000	600~2200	800~3000
空气耗量(m3/min) Air Consumption(m3/min)	1.5	3	6	10	20	40	60	80
工作压力(Mpa) Working Pressure(Mpa)	0.75~0.85	0.75~0.85	0.75~0.85	0.75~0.85	0.75~0.85	0.75~0.85	0.75 0.85	0.75 0.85
进料粒径(目) Feed Diameter(mesh)	45~150	60~325	60~325	60~325	60~325	60~325	45~200	45~200
粉碎细度(μm) Grinding Size(μm)	0.5~30	0.5~30	0.5~30	0.5~30	0.5~30	0.5~30	5~150	5~150
装机功率(kw) Energy Consumption Power(kw)	20	40	60	95	188	376	560	728

电子级材料专用高精度微米分级机

Air Classifier specially for Electronics materials



工作原理

涡轮式分级机是带有二次进风及水平安装分级转子的强制型离心分级机，它由分级转子、导叶片整流器、加料器等组成。物料由上筒身加入，外界一次风对物料风筛作用，使粒子充分分散， 并上升至分级区，由于分级转子高速旋转，粒子既受到分级粒子产生离心力，又受到气流粘性作用产生的向心力，当粒子受到离心力大于向心力，即分级径以上的粗粒子沿容器壁面旋下，外界二次空气通过导流部整流成均一旋流，将混杂或粘附于粗粉中的细粒分离干净，分离后粗粒从下部粗粒口排出，分级径以下细粒随气流进旋风分离器、除尘器收集，净化后气体从引风机排出。

特 点

• 精密陶瓷涂层，100%杜绝物料分级过程中带来的铁污染。保证分级物品纯度。特别适用于对铁含量要求极高的电子材料。如钴酸锂、锰酸锂、磷酸铁锂、磷酸亚铁锂、三元材料、四氧化三钴、碳酸锂、镍钴酸锂等电池正极材料。全新设计的结构，切割精度高，粒度分布窄，分级效率高，性能可靠。

• 适用于干法微米级产品的精细分级，可分级球状、片状、针状的颗粒，也可对不同密度的颗粒进行分级。

• 可与各类粉磨设备串联使用，组成循环生产线，提高工作效率；也可多级分级机串联使用，同时生产多个粒度段的产品。

• 采用先进的自动化控制，运行状态实时显示，操作简便；并可与其他串联设备控制系统组成中控系统。

PRINCIPLE

The turbine grader, as a forced centrifugal grader with secondary air entry and horizontal grading rotator is composed of grading rotator, guide vane rectifier and screw feeder. The materials are fed through the upper cartridge, and the grains will be seived and well distributed by the incoming air, which brings the grain to the grading zone.

The centrifugal force produced by the fast rotation of grading rotator together with the cetripetal force produced by the pneumatic adhesion both act on the grading grains. When the centrifugal force on the grain is greater than the cetripetal force, the coarser grains above the grading range will be swirled down along the container wall. The secondary air will be rectified to uniform cyclone through the guide vane and separate the thinner grains from the coarser ones. The separated coarser grains will be blown out from the discharge port. The thinner grains will come to cyclone separator and collector, whereas the purified air will be vented outside from the draft.

FEATURES

Precision ceramic coatings, 100% eliminate the iron pollution from material classification process to assure the purity of the products. Especially suitable for iron content requirements of the electronic materials, such as cobalt high acid , lithium manganese acid, lithium iron phosphate, Ternary Material, lithium carbonate, and Acid lithium nickel and cobalt etc battery cathode material.

The newly designed structure is with high precision cutting precision, narrow particle distribution, high classifying efficiency and reliable performance.

Applicable to precision classifying for dry micron products, can classify round shape, flake shape or needle shaped particle, and can classify particles with different density.

Can formulate a circular production line with all kinds of milling equipments to improve the working efficiency; and also can use series of classifier to produce products in different particle range at the same time.

Adopt advanced automatic control and operation status real-time display, simple operation; And can formulate central control system together with other series equipment control system.

主要技术参数

Technical Parameter

参数 Parameter / 型号 Model	WFJ—260	WFJ—400	WFJ—600	WFJ—800	WFJ-1200A
分级粒径 Grinding Size	2~15	2~15	2~15	2~15	2~15
处理量(kg/h) Capacity(kg/h)	50~200	300~1000	500~1500	1000~3000	1500~3500
转子功率(kw) Rotor Power(kw)	3.0	5.5	7.5	11×3	55x1
系统风量(m^3/h) System Airflow(m^3/h)	600	2100	5000	7500	8800
空气耗量(m^3/min/Mpa) Air Consumption(m^3/min/Mpa)	1.25/0.7	1.8/0.7	2.5/0.7	4.5/0.7	6.0/0.7

绿色环保智能型气流粉碎混合系统
The Jet Milling and Mixing system for Agrochemical

主要参数
Major Technical Parameters

参数 Parameter / 型号 Model	QYF-150	QYF-260	QYF-400	QYF-600	QYF-720
生产能力(kg/h) Capacity(kg/h)	5~100	50~200	80~380	200~500	400~1000
空气耗量(m3/min) Air Consumption(m3/min)	3	6	10	20	40
工作压力(Mpa) Working Pressure(Mpa)	0.75~0.85	0.75~0.85	0.75~0.85	0.75~0.85	0.75~0.85
进料粒径(目) Feed Diameter(mesh)	60~325	60~325	60~325	60~325	60~325
粉碎细度(μm) Grinding Size(μm)	0.5~30	0.5~30	0.5~30	0.5~30	0.5~30

该系统是将我们成熟的气流粉碎技术和现有的混合技术以及智能控制技术完美的集合在一起，以满足农药行业的农药产品多品种混合粉碎和再混合的特殊工艺要求，同时通过特殊设计,达到操作过程无粉尘飞扬，满足环保要求。

特 点

- 粉碎环节运用流化床气流粉碎原理，粉碎效率高，粒度分布均匀。
- 加料环节采用负压气流输送，加料口使用负压引风装置，确保加料口无粉尘飞扬。
- 前后混合环节，采用双螺旋混合机，确保混合充分均匀。
- 成品出料口，可采用密闭出料，直接连接自动包装机。
- 全系统可实现远程触摸屏控制。

This system is a perfect combination of jet mill technology, mixing technology and intelligent control technology, which is a satisfying product for pesticides to multi-mix and remix. Meanwhile, it meets environmental request that no dust during the whole process.

FEATURES

The milling process is applying the fluidized-bed jet mill working principle with high efficiency, and the particle size distribution is uniform.

The feeding process is with the minus pressure air transportation, the exhauster is added to prevent the dust emanation.

Both the first and last mixing process are applying the double screw mixers which insure the mixing is sufficient and symmetrical.

The product outlet can directly connected to the auto packing machine.

The whole system is controlled with the remote PLC control.

以下工艺流程仅供参考，可根据客户需要调整设计，满足客户的要求。
The following flowcharts are just for reference.We can design the flowchart according to clients' requirements.

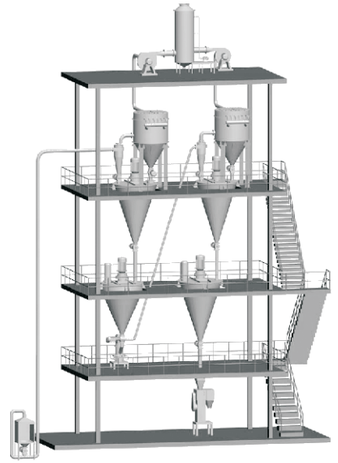
密友MIYOU 国家高新技术企业

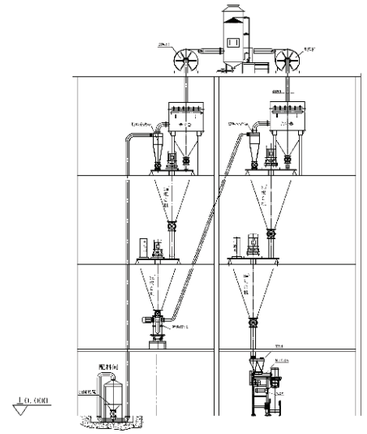
绿色环保智能型气流粉碎混合系统流程示意图
Flow Chart of the Jet Milling and Mixing Syatem for Agrochemical

A. 连续型，适用于大量生产
Continuous model, applied to mass production

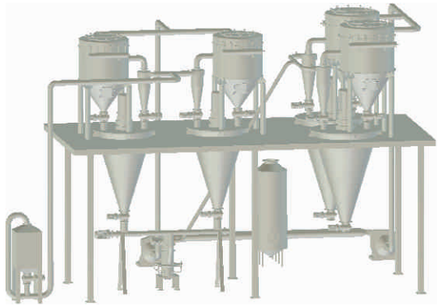
农药行业推荐产品
Recommended product for agrochemical industry

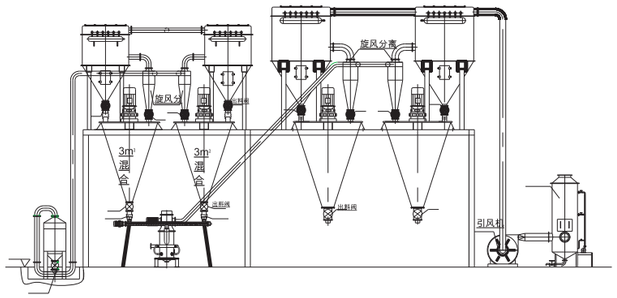
智能化 环保型
Intelligent . Environmental protection



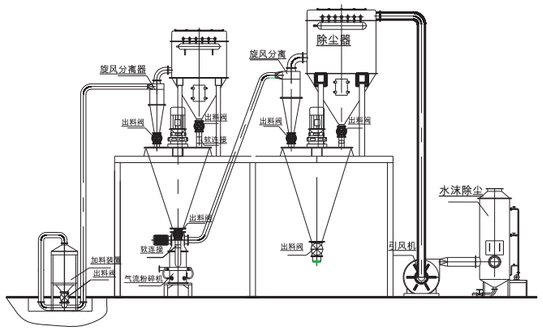


B. 连续型，适用于大批量生产
Continuous model, applied to mass production



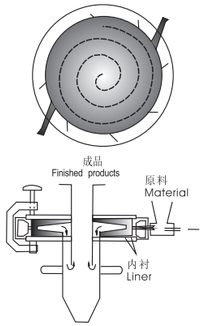


C. 简易型，适用于小批量生产
Simplified model, applied to batch production



超音速气流粉碎机
Ultrasonic Pancake Jet Mill

粉碎原理示意图
Illustrating Chart of Pulverizing Principle



工作原理

当压缩气体通过加料喷射器，粉碎原料进入粉碎室，在粉碎室外围有数个粉碎喷嘴，喷射超音速气流，使粉料受到气流高速冲击以及粉料互相碰撞、摩擦而粉碎，分级室把较粗的颗粒分离出来，粗颗粒循环返回粉碎室内粉碎后，最后在出料口可获得分布均匀超细粉。

特 点

- 适用于干式超细粉碎工艺，由于冲击速度大，可达2.5马赫以上，一般情况下很容易获得1~10微米粒子。
- 由于粉碎机内部有粒度调节机械，制品中粗粒子不断循环粉碎，因而能获得粒子均匀、粒径分布范围小的制品。
- 粉碎过程中，由于压缩空气膨胀，使温度下降，因此适用于低熔点，热敏性物料的粉碎，粉碎过程中还起到混合和分散的效果。
- 该设备具有粉碎和时间短，结构简单，没有运转活动部件且操作检修方便，占地面积小，低噪声和无振动优点。
- 粉碎效率高，能进行连续粉碎，能保持粉碎制品纯度。

适用范围

该机广泛应用于西药、中药、农药、化工、冶金等行业物料的超细粉碎，如多菌灵、甲基托布津、除草剂、白炭黑、颜料、染料、尼莫地平、可的松等。

超音速气流粉碎机主要技术参数
Major Technical Parameters of Ultrasonic Pancake Jet Mill

参数 Parameter / 型号 Model	QYN200	QYN400	QYN600
生产能力(kg/h) Capacity(kg/h)	30~100	100~300	300~600
空气耗量(m^3/min) Air Consumption(m^3/min)	6	10	20
工作压力(Mpa) Working Pressure(Mpa)	0.7~0.8	0.7~0.8	0.7~0.8
进料粒径(目) Feed Diameter(mesh)	60~325	60~325	60~325
粉碎细度(μm) Grinding Size(μm)	5~45	5~45	5~45
装机功率(kw) Energy Consumption Power(kw)	45	75	160

PRINCIPLE

When the compressed air brings the milling materials through the feeding injector to the milling chamber,the powder will be impacted,collided and milled by ultrasonic air flow from numbers of milling nozzles around the peripheral chamber. The coarser grains separated from the grading chamber will be cycled back to the milling chamber for further milling . The homogeneous superfine powder will be finally discharged from the port.

FEATURES

Applied to the dry-type superfine Proceses:The high speed impact can result in not less than 2.5 Mach,normally 1~10 μm grains.

The homogeneous and superfine products can result from the circular milling in the internal grading structure .

Applied to low-melting and heat-sensitive milling owing to the low temperature and expanded air,and also yielding the double result of blending and dispersion.

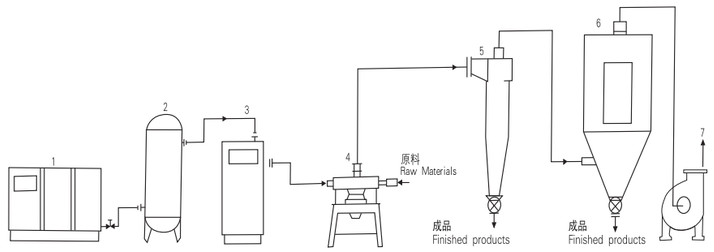
Advantages: rapid milling, simple structure,free of movable parts,accessible maintenance and operation,minimal floorage,low noise,and vibration-free.

High Efficie ncy of Milling:performing continous milling and maintaining good purity of milling products.

APPLICATION SCOPE

It is widely applied to superfine milling in such fields as pesticide,chemical smelt and pharmic industries,for carbendazim,formal topsin,herbicide,silica aero gel,pigment dye and cortisone.

QYN型超音速气流粉碎机流程示意图
Flow Chart of QYN Ultrasonic Pancake Jet Mill



1、空气压缩机	1. Air Compressor
2、贮气罐	2. Air Storage Tank
3、空气冷冻干燥器	3. Air Cooling Drier
4、QYN超音速气流粉碎机	4. QYN Ultrasonic Jet Mill
5、旋风分离器	5. Cyclone Separator
6、除尘器	6. Dust collector
7、引风机	7. Draught Fan

密友MIYOU 国家高新技术企业

粉碎、研磨、分级、环保生产线
Roller Milling and Classifying Production Line

工作原理

粉碎研磨分级连续生产线是我公司针对非矿等行业重点推出的流程化产品。该生产线主要由环辊磨、高精度分级机、真空上料系统、管路输送系统、旋风分离器、脉冲除尘器、引风机、回路管等组成。通过优化的系统配置，使环辊磨生产的粉体直接进入高精度分级机进行分级。一次产出符合用户细度要求的成品。

特 点

采用了由微机工作站、高性能PLC可编程控制器、组态控制软件及相应电器元件组成的自动控制系统，实现自动运行、故障报警、远程监视、远程控制等功能。在本系统中，各控制部分由PLC可编程控制器协调控制，集中将所有采集设备输入信号采集，编译，并显示在本公司自行编写的组态控制程序中；同时将组态控制程序中的各种输入限制参数读入PLC，并且与采集设备采集来的信号进行运算，比较，判断，并做出正确的指示。实现了有效资源高度集中应用，自动化程度很高的控制系统。

通过系统调整，可生产2um、5um、10um等多种系列的粉体产品。其生产细度无极可调。并可根据用户实际产能需求，设计制造不同产能的粉碎研磨分级连续生产线。

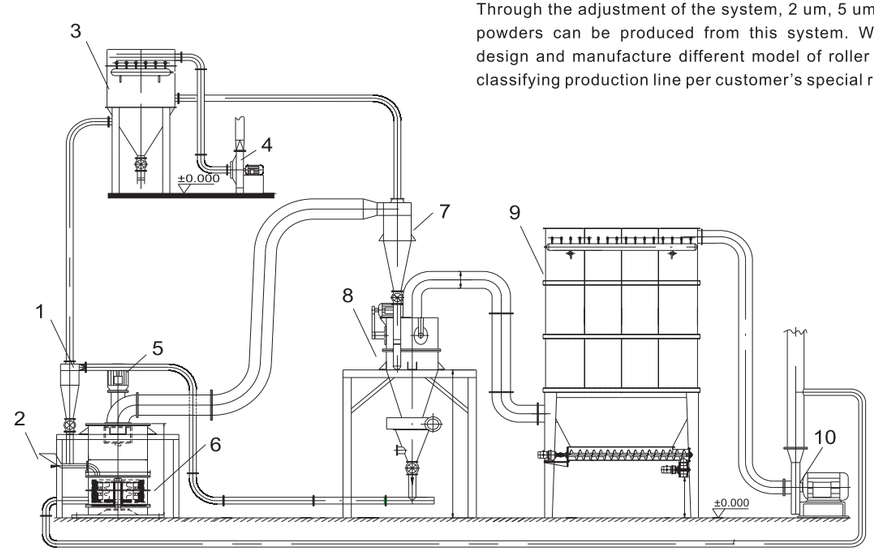
PRINCIPLE

Roller Milling and classifying production Line is a continuous production line we recommend in non-mineral industry. This production line is composed of roller mill, high precision air classifier, vacuum feeding system, pipeline transportation system, cyclone separator, dust collector, draught fan, loop pipes etc. Optimized system configuration makes the powders after roller milling enter into the air classifier for further classifying directly to get the finished product.

FEATURES

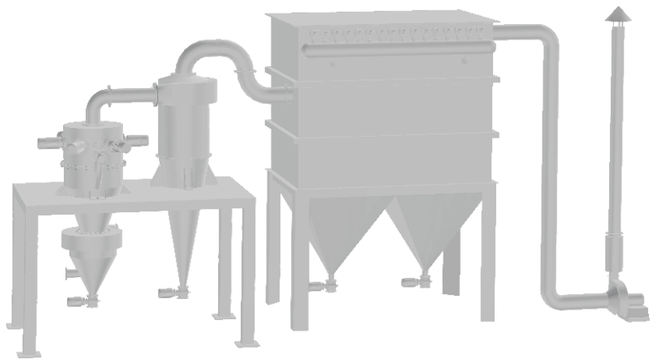
Adopt the high performance of computer workstation PLC programmable controller, the control software configuration and the corresponding electric components of automatic control system, realized the automatic operation, fault alarm, remote monitoring function such as remote control in the system, and the control part by PLC programmable controller coordination control, concentrate on all acquisition device input signal acquisition, compiled, and displayed in the company to write configuration control procedures; And at the same time, to control the procedure in the configuration of various input limit parameters read in PLC, and with acquisition device to signal collection operations, compare, judgment, and make the right instructions realize the effective resources highly centralized application, highly automated control system.

Through the adjustment of the system, 2 um, 5 um, 10 um etc powders can be produced from this system. We can also design and manufacture different model of roller milling and classifying production line per customer's special request.



1、7、旋风分离器		1、7、Cyclone separator	
2、进料口	5、电机	2、Inlet	5、Motor 22KW
3、9、除尘器	6、环辊磨	3、9、Dust colector	6、Roller Mill
4、10、引风机	8、高精度分级机	4、10、Draught Fan	8、High Precision Air Classifier

卧式微米分级机
Horizontal micron grade machine



工作原理

涡轮式分级机是带有二次进风及水平安装分级转子的强制型离心分级机，它由分级转子、导叶片整流器、加料器等组成。物料由上筒身加入，外界一次风对物料风筛作用，使粒子充分分散，并上升至分级区，由于分级转子高速旋转，粒子既受到分级粒子产生离心力，又受到气流粘性作用产生的向心力，当粒子受到离心力大于向心力，即分级径以上的粗粒子沿容器壁面旋下，外界二次空气通过导流部整流成均一旋流，将混杂或粘附于粗粉中的细粒分离干净，分离后粗粒从下部粗粒口排出，分级径以下细粒随气流进旋风分离器、除尘器收集，净化后气体从引风机排出。

特 点

- 可配合各类干式粉磨机械（气流磨、行星磨、球磨机、雷蒙磨、振动磨等）组成闭路系统。
- 分级效率高，物料在卸出前受到旋流冲击，将混杂或粘附于粗粒的细粒子进一步分离，从而提高了分级效率和分级精度，粒度分布窄，可获得97％小于 5μm超细粉产品。
- 卧式分级转子采用耐磨材料制成，单只和多只并用，传动稳定，使用寿命长。

PRINCIPLE:

The turbine grader, as a forced centrifugal grader with secondary air entry and horizontal grading rotator is composed of grading rotator, guide vane rectifier and screw feeder. The materials are fed through the upper cartridge, and the grains will be seived and well distributed by the incoming air, which brings the grain to the grading zone. The centrifugal force produced by the fast rotation of grading rotator together with the cetripetal force produced by the pneumatic adhesion both act on the grading grains. When the centrifugal force on the grain is greater than the cetripetal force, the coarser grains above the grading range will be swirled down along the container wall. The secondary air will be rectified to uniform cyclone through the guide vane and separate the thinner grains from the coarser ones. The separated coarser grains will be blown out from the discharge port. The thinner grains will come to cyclone separator and collector, whereas the purified air will be vented outside from the draft.

FEATURES

· Compatible with a variety of dry type powder mill machinery (jet mill, ball mill, Raymond mill) to form a closed circuit . High Grading.

· EfficiencyBefore discharge. the impact of cyclone: on the materials separates the coarser grains efficiency and precision. Yielding 97% superfine products of less than 5μm.

· The horizontal grading rotator, made of abrasion resistant materials, is featured by stable operation and sustainable service life.

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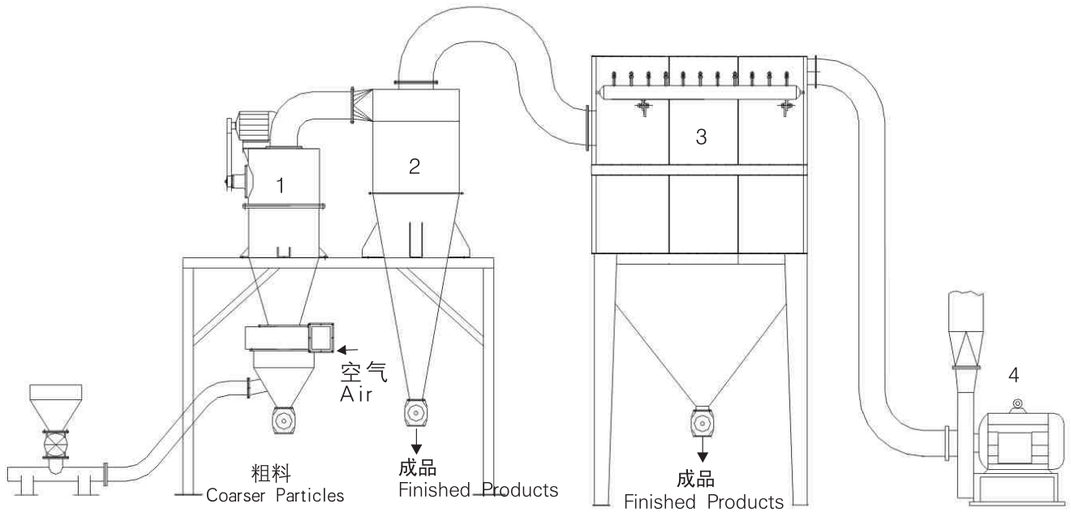
主要技术参数
Major Technical Parameters

参数 Parameter / 型号 Model	WFJ—260	WFJ—400	WFJ—600	WFJ—800	WFJ-1200A	WFJ-1500	WFJ-1500A	WFJ-2000A
分级粒径 (μm) Grinding Size	2~15	2~15	2~15	2~15	2~15	2~15	3~15	4~15
处理量(kg/h) Capacity(kg/h)	50~200	300~1000	500~1500	1000~3000	1500~3500	6000~8000	3000~6000	4500~9000
转子功率(kw) Rotor Power(kw)	3.0	5.5	7.5	11×3	55x1	15x6	90x1	132x1
系统风量(m^3/h) System Airflow(m^3/h)	600	2100	5000	7500	8800	15000	16500	23500
空气耗量(m^3/min/Mpa) Air Consumption(m^3/min/Mpa)	1.25/0.7	1.8/0.7	2.5/0.7	4.5/0.7	6.0/0.7	10/0.7	8.0/0.7	10/0.7

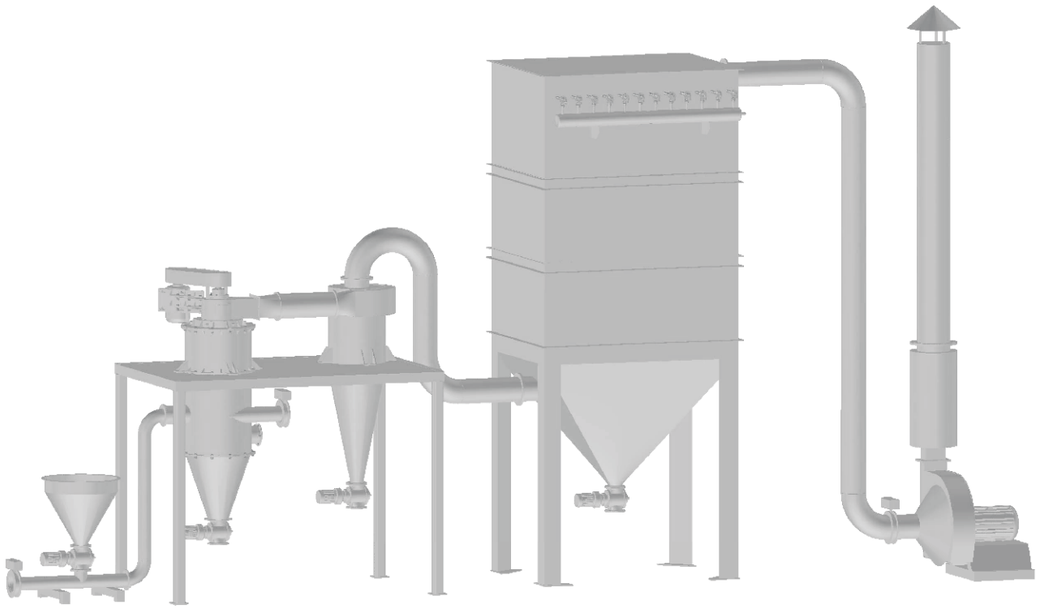
微米分级机流程示意图
Flow chart of micron grader



1、WFJ涡轮式分级机
2、旋风分离器
3、除尘器
4、引风机

1. WFJ Turbine Milling Grader
2. Cyclone Separator
3. Dust collector
4. Draught Fan

立式微米分级机
Vertical micron grade machine



特 点

- 适用于干法微米级产品的精细分级，可分级球状、片状、针状的颗粒，也可对不同密度的颗粒进行分级。
- 采用了最新设计的分级转子，分级产品的粒度较前代产品显著提高，可实现高精度分级，产品粒度无级可调，品种更换极其方便。
- 可多级分级机串联使用，同时生产多个粒度段的产品。
- 可与各种粉磨设备串联使用，组成闭路循环工作，提高工作效率。
- 控制系统采用先进的自动化控制，运行状态实时显示，操作简便。
- 系统负压运行，粉尘排放量不超过40mg/m^3,设备噪音通过采用消音措施，不高于60dB(A)。

FEATURES

Applied to the fine classifying of dry micron-grade products like Ball, flake, needle particles and particles of different density.

The latest design classification rotor is used, which is a significant improvement in classifying particle size compared to former generation product, with advantages like high-precision grading and adjustable particle size and very convenient varieties replacement.

Vertical grading turbine device with low rotating speed, resistance to wear and low system power.

Multi-level grader can be used in series to manufacture products of multiple granularity section

Various grinding equipment can be used in series, making closed-circuit circulation work, to improve work efficiency.

6 Controlling system is automatic, running condition is displayed real time, operation is very easy.

System is running under negative pressure, dust emissions is less than 40mg/m, equipment noise is no higher than 60dB(A) by adopting noisedamping measurement.

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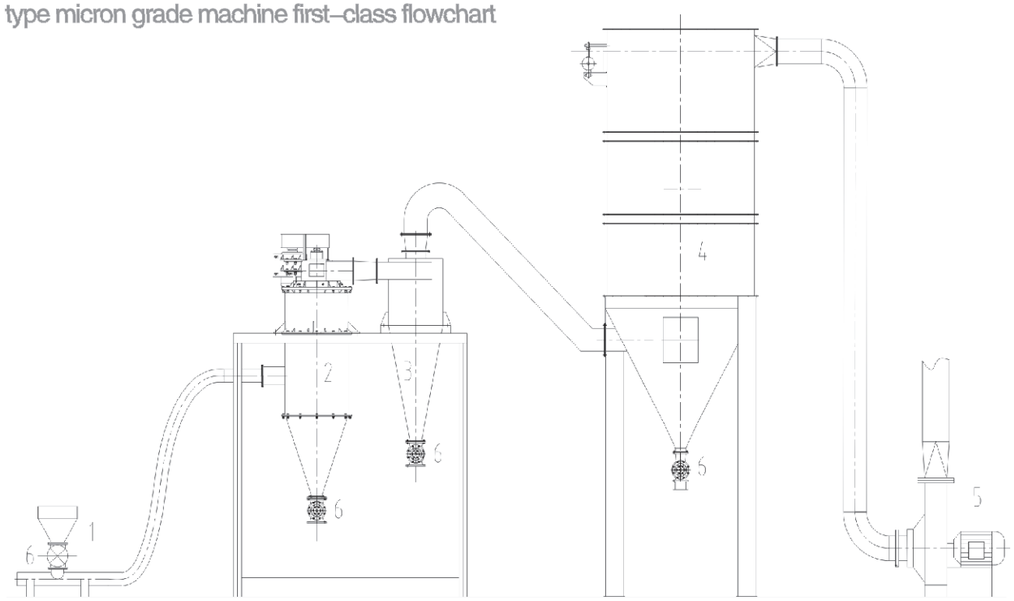
主要技术参数
Major Technical Parameters

参数 Parameter / 型号 Model	LFJ-600	LFJ-800	LFJ-1000	LFJ-1500	LFJ-2000
转子直径(mm) Rotor diameter	Φ300	Φ400	Φ500	Φ700	Φ950
转子功率(kw) Rotor Power(kw)	15	22	30	55	75
分级粒径 (μm) Grinding Size	5~15	5~15	6~20	8~20	10~20
处理量(kg/h) Capacity(kg/h)	500~1500	1000~3000	2000~5000	3000~8000	5000~12000
系统风量(m^3/h) System Airflow(m^3/h)	25000	4000	6500	12000	20000
空气耗量(m^3/min/Mpa) Air Consumption(m^3/min/Mpa)	3/0.7	4.5/0.7	6.0/0.7	8.0/0.7	10.0/0.7

微米分级机流程示意图
type micron grade machine first–class flowchart



1. 加料装置
2. LFJ立式分级机
3. 旋风分离器
4. 除尘器
5. 引风机
6. 星形出料阀

1. The charging device
2. LFJ vertical grade machine
3. Cyclone separator
4. Dust collector
5. Induced draft fan
6. Rotarywalve

环保农药水悬浮剂一体化成套设备

SC formulation plant milling & mixing system

产品概述

此型式的分散盘在槽孔和多轮廓的作用下，使研磨介质的球体产生强烈的碰撞和摩擦，使物料得到高效率的研磨分散。

该机采用经优化设计的机械密封，具有可靠性和耐用性，并配有与研磨物料相容性的冷却液，减少对研磨物料的污染。

适用于农药、涂料、油漆、油墨等行业的物料研磨，能将物料颗粒的聚体化，通过强力的研磨短时间内达到要求的细度。操作使用简单，可靠性好，生产效率高，能满足用户的需要。

工作原理

待研磨的产品通过输送泵进入磨腔，通过磨腔内分散盘槽孔及多轮廓盘型，使浆料与研磨介质产生强烈的碰撞与摩擦，使物料得到高效率的研磨分散。经研磨分散后的浆料通过动态分离筛出料。

特 点

- 超级效率：结合公司多年在研磨领域的经验，优化设计的分散盘，最大程度将能量转移到研磨介质上，通过强力研磨迅速达到所需的细度。操作简单，可靠性好，生产效率高。
- 采用了先进的动态分离技术，可实现研磨介质与浆料有效分离。该项技术使得该设备可采用极其细小的研磨介质（Φ0.5mm~Φ1.4mm），填珠个数可几何程度增长，特殊设计的合金分离设备使用寿命长，几乎无需维护。
- 优化设计的机械密封：作为《砂磨机、珠磨机机械密封技术条件》的制定单位，为这台砂磨机配置了经过优化设计的机械密封，具备了高可靠性与耐磨性，并可采用与研磨物料相容的冷却液，杜绝对研磨物料的污染。

型号 Model / 参数 Parameter	MYM15A	MYM20A	MYM30A	MYM48A	MYM60A
筒体容积 Tank capacity L	15	20	30	48	60
电机功率 Motor power KW	11	18.5	22	37	45
产量范围 kg/h Production capacity	30~200	40~300	50~600	100~1000	150~1200
研磨细度 Fines μ	2—20				
输送泵型式 Pump type	隔膜泵/齿轮泵 Diaphragm pump/Gear pump				

Product introduction:

The type dispersing disk is functioned by the slot hole and multiplied profiles to produce the strong bump and fiction among mediate ball bodies. Therefore, the material can be ground and dispersed in high efficiency.

The machine adopts the dual end surface mechanical sealing with reliability and durability, mated with the coolant compatible to the ground material in order to reduce the pollution of ground material, suitable to grind the materials in coating, oil painting printing ink and pesticide industries. It makes the material into aggressiveness and give the strong grind so that the grains reaches the required fineness in short time. The machine is easily operated with reliability and high production efficiency. Depending on different requirements, the different models of machines can satisfy with customers.

PRINCIPLE

The raw grinding material enters into the grinding chamber through the transfer pump. This type dispersing disk is functioned by the slot hole and multiplied profiles to produce the strong bump and fiction between the material and grinding media. It can make material getting high-efficient abrasive scattered, the slurry, after grinding,the scattered slurry will go out through dynamic separation screen.

FEATURES

Super efficiency: combined with years of experience in the field of the grinding, the dispersed disk has been optimized designed, can transfer most of energy onto grinding media; can get required fineness rapidly through powerful grinding. Simplicity of operation, good reliability and high efficiency.

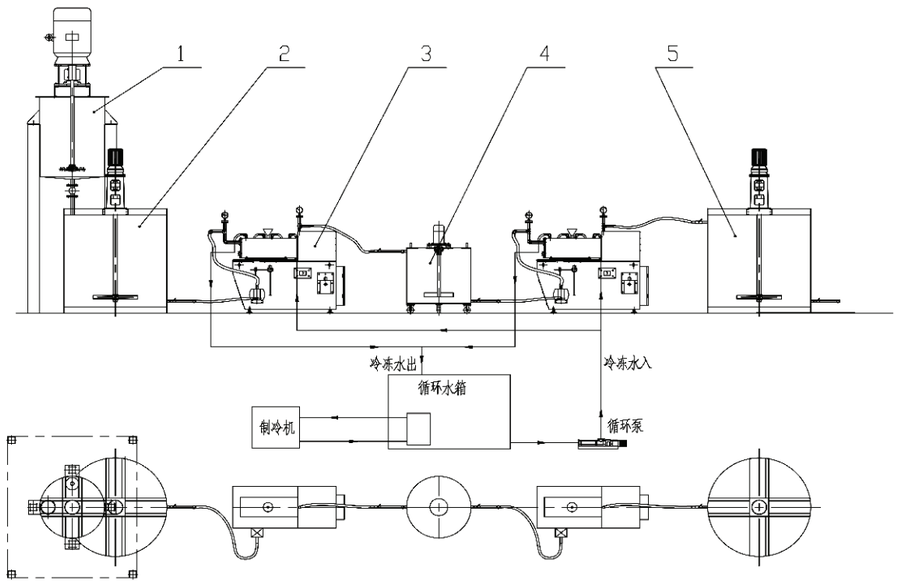
Adopted advanced dynamic separation technology, Grinding media and slurry can be separated from each other effectively. this technology make that the equipment can use very fine grinding medium（Φ0.5mm~Φ1.4mm）, Filling bead number can increase by geometry multiples, the alloy separation equipment has long service life because of its special design, almost does not need any maintenance.

Optimization design of mechanical seal: As formulation of the unit" the sand milling machine, bead grinding machine mechanical seal technology conditions ", we equipped with optimized design of mechanical seal for this one sanding machines, it has high reliability and wear resistance, it also can use cooling fluid, which is compatible with grinding materials, to prevent the pollution of grinding materials.

密友MIYOU 国家高新技术企业

A：环保农药水悬浮剂一体化成套设备流程示意图
SC formulation plant layout

B. 简易型农药水悬浮剂一体化生产线
Simple production line



1、预分散罐
2、原料罐
3、砂磨机
4、过滤罐
5、成品储存罐

1、Pre-dispersion Tank
2、Raw material Tank
3、Sand Mill
4、Transition Tank
5、Finished Product Tank

环保涂料成套装备生产线

Environmental protection Painting Production System

产品概述

整套系统由搅拌釜、高性能珠磨机、储存釜、调漆釜、输送泵、强制冷却机构、连接管道等组成。通过优化的系统配置，最大程度的将能量转移到研磨介质，进行磨碎。整机运用的特殊技术，使物料流量非常大。这样的好处既可以迅速达到磨细产品的目的，又可以使物料升温较小，有效的控制了系统整体温升。通过强制冷却机构，最大程度的带走热量。使物料不至因为温升造成变色、团聚等现象。采用了多种监控设备，通过PLC进行采集并最终传送到工业控制计算机（或触摸屏）上。操作人员可以便捷的通过计算机对整套设备进行监控，特别适用于对防爆、人体危害有严格要求的产品粉碎。浆料由搅拌釜通过定量输送泵进入磨机，在磨机中进行粉碎，并由输送泵进入储存釜，通过对储存釜物料进行检测，达标浆料进入灌装或下道工序，未达标浆料可以返回磨机进行再次粉碎。通过一次或数次的经验可以确认系统运行参数。最终实现自动化生产。

该成套设备能独立完成分散、研磨、过滤、真空自动吸料以及半自动灌装等全过程。有年产800吨 、1800吨 、4800吨 、8800吨 、11000吨 、18000吨、28000吨、58000吨、88000吨等多种型号可供选择，并可根据客户实际产能需求，设计制造专业涂料一体化成套设备。

特 点

- 特级冷却：设计了大面积的多层冷却区域，能够有效逸散磨腔中产生的热量。无论是单道加工还是多次循环操作，均无需进行额外的冷却。物料的温度在安全范围，尤其适用于热敏性物料的研磨。
- 研磨筒体、棒销、转子的材料可根据耐磨性、耐腐蚀性的要求加以更换。
- 采用了先进的动态分离技术，可实现研磨介质与浆料有效分离，研磨介质在内外研磨带循环进行研磨。浆料通过中心设置的保护分离筛网进入卸料管进行出料。该项技术使得该设备可采用极其细小的研磨介质（Φ0.2mm~Φ1.2mm），填珠个数可几何程度增长，同时由于研磨介质的有效分离及循环使用，可实现高流量的研磨，使研磨具备高效能、大产量、高分散性等特点。
- 适用粘度范围广泛，在20mpas~7000mpas都可以进行用。
- 采用经优化设计的机械密封。

Product introduction:

The system is made of stirred tank , high-performance bead mill, storage kettle, paint mixing kettle, delivery pump, forced cooling unit, and connecting pipelines. Through the optimization of the system configuration, can extremely transfer energy to grinding media, and do well grinding. The system uses special technology, makes the material flowing very high. The advantage of this is quickly grinding products, and can make less temperature rise of the material. It will effectively control the temperature rise of the whole system. The forced cooling unit takes away heat furthest, To prevent the material from changing color and agglomerating.

A variety of monitoring equipments send information to the industrial control computer (or touch screen) by virtue of PLC. The operator can control the whole system on a computer monitor conveniently, it is especially suitable for grinding industries which needs explosion-proof and guard against the material doing harm to people. The slurry is transmitted from stirred tank to grinding mill by quantitative delivery pump, Then will be ground in the grinding mill, After that the slurry will be transmitted to storage kettle by delivery pump, the operator can take and test the sample from the storage kettle, If the size of slurry is up to requirement, It will be transmitted to filling or other next process, if the size is not ok, then it will be transmitted to grinding mill to grind again till it can meet the requirement. By one or several times of operation experience, The operation parameters of the system can be fixed to finally realize the automatic production.

The system can independently finish scattered, grinding, filter, vacuum feeding as well as semi-automatic filling process, etc. We have models with annual output of 800 tons, 1800 tons, 4800 tons, 8800 tons, 11000 tons, 18000 tons, 28000 tons, 58000 tons, 88000 tons etc. for your choosing, and we can design and manufacture professional integrated complete set of equipment systems for paint industry according to customer's required actual production.

FEATURES

Super cooling: We designed large multilayer cooling area, can effectively release the heat in grinding chamber. Whether during single or multiple processing , there is no need to add extra cooling equipments. The temperature of the material is in safe range, especially suitable for the grinding of thermal sensitive material.

The material of grinding barrel, stick pins and rotor resistance can be changed according to requirements of abrasive and corrosion resistance.

The system applies advanced dynamic separation technology, it can realize effective separation of grinding media and slurry , the grinding media grind circularly in the inner and outer of ground belt.

The slurry will be transmitted into discharge pipe through screen separation,

The technology make the equipment can use very fine grinding medium (Φ 0.2 mm to Φ 1.2 mm), the filling beads number can be increased at geometry degree, at the same time, the grinding media can be efficiently separated and cyclically used, it can achieve high flow grinding, make the mill have big production, high efficiency and high dispersion characteristics.

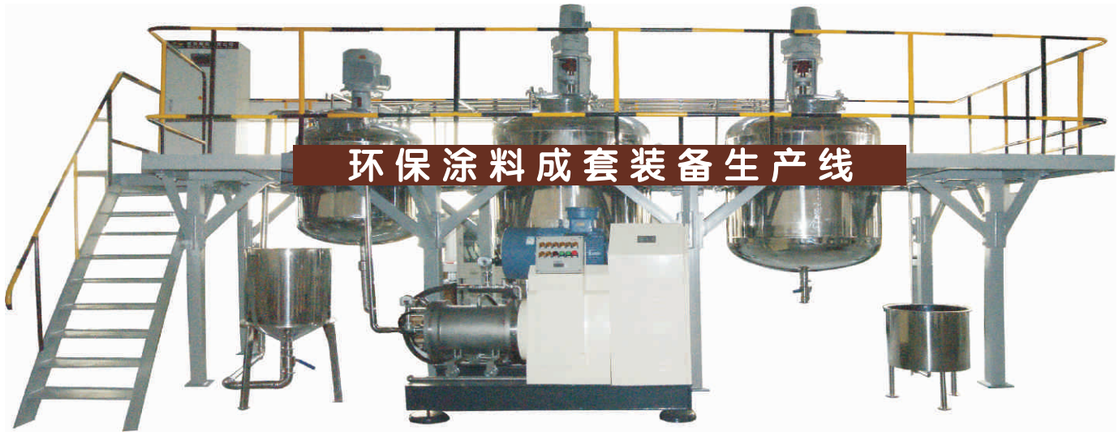
Applicable viscosity range, can be used from 20 mpas to 7000 mpas..

Use mechanical seal of optimized design.

密友MIYOU 国家高新技术企业

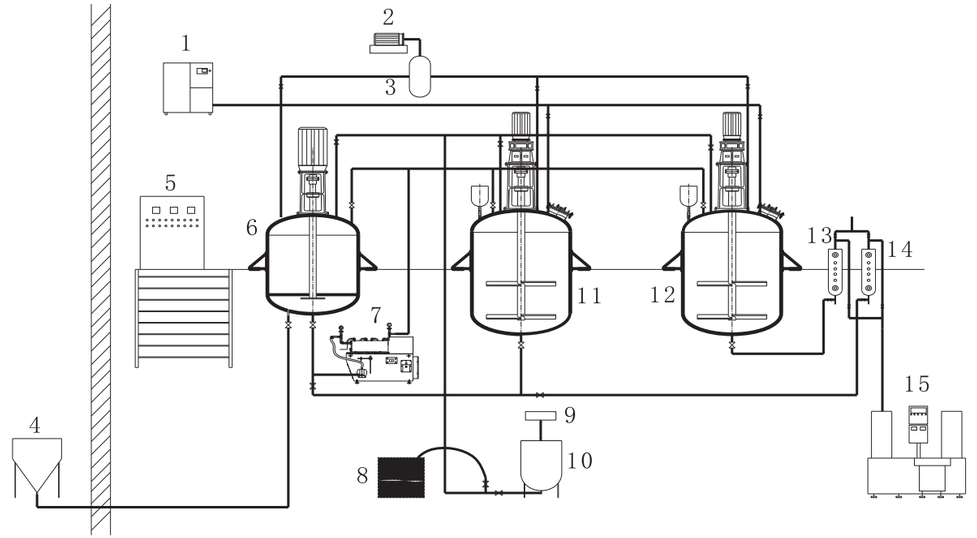
环保涂料成套装备生产线流程示意图

Environmental protection Painting Production System Layout



涂料一体化成套装备工艺流程图

Painting Production System Techonology Flowchart.

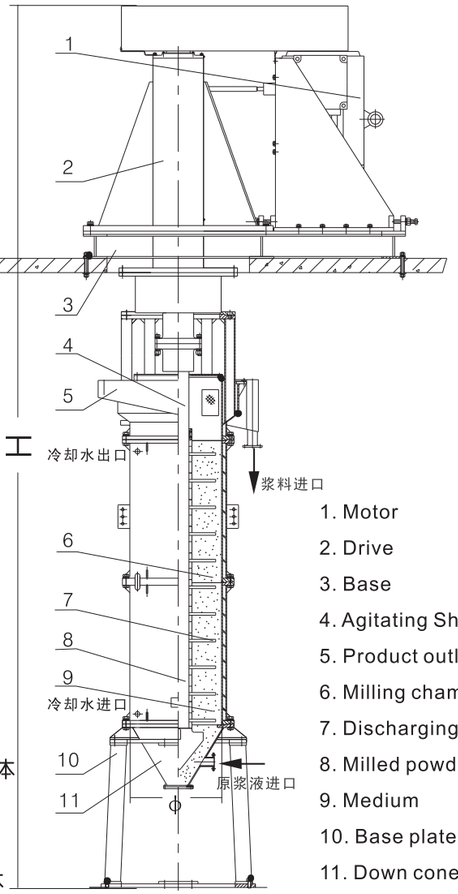


1.空压机
2.真空泵
3.真空缓冲罐
4.粉体吸入槽
5.电路控制系统
6.高速预分散釜
7.卧式砂磨机
8.液体吸入槽
9.液体计量器
10.添加剂槽
11.12.调配釜
13.14.反冲式袋式过滤器
15.灌装机

1.Air compressor
2.Vacuum buffering tank
3.Vacuum pump
4.Powder suction groove
5.Circuit control system
6.High speed dispersing machine
7.Horizontal sand mill
8.Liquid suction groove
9.Liquid meter
10.Additive Tank
11.12.Formulation tank
13.14.Recoil Bag Filter
15.Filling machine

湿法立式搅拌磨

Vertical agitated wet ball mill



1、电动机
2、传动部
3、底座
4、搅拌轴
5、出料槽
6、磨腔
7、拔料盘
8、中间筒体
9、磨介
10、支座
11、下锥体

1. Motor
2. Drive
3. Base
4. Agitating Shaft
5. Product outlet
6. Milling chamber
7. Discharging pan
8. Milled powder
9. Medium
10. Base plate
11. Down cone

特 点

• SJM搅拌磨综合吸收了研磨、砂磨、塔磨等设备特点，具有效率高、噪声低、处理能力大、操作维修方便等优点。

• 当给料粒度为325目时，经二次研磨可达-2μm 95%以上(平均粒径0.6μm以下)。

• 既可超细研磨，又可得到流动状态极佳的浆状物。

• 磨矿筒体磨盘采用高耐磨材料及高硬度耐磨合金材料，设备使用寿命长。

• 使用的磨矿介质耐磨、粒径大小配比科学，在磨矿过程中无铁质污染，不影响产品白度。

• 使用一台湿法磨可连续作业，独立完成一种产品的研磨，也可通过反复循环进料完成两种或以上产品的研磨。

FEATURES

• Integrating the features of abrasive grinders, sand mills and tower mills available at home and abroad, SJM stirring mills are characterized by high efficiency, energy effectiveness, low noise, and easy operation and maintenance.

• When the feeding particles are approximately 325mesh, the mesh size can reach -2μm 95% or above (average particle diameter below 0.6μm) after secondary grinding.

• This stirring mill can yield ultrafine grinding and syrup with favorable flow pattern.

• Since the grinding bowl and disk are made from high abrasive resistance materials and high strength abrasion resistance alloy materials, the equipment has a durable service life.

• The milling medium has strong abrasive resistance and rational proportional particle sizes. The milling process produces no ferrous pollution and will not influence the whiteness of products.

• One wet mill can work continuously and grind a certain product independently. Repeated cyclic feeding can also be used to grind two or more types of products.

主要技术参数

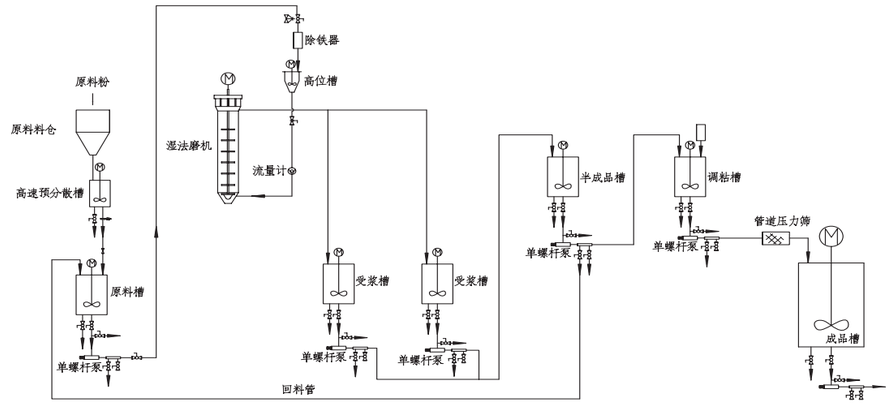
Major Technical Parameters

型号Mode		SJM80	SJM180	SJM300	SJM500	SJM1000	SJM1800	SJM3600
功率(kw) Power(kw)	主机 Central Unit	22	37	75	132	160	200～220	315～355
主轴转速(r/min) Pindle Sp eed(r/min)		>300	>300	>300	>300	>300	>300	>300
容积(L) Volume(L)		80	180	300	500	1000	1800	3600
高H		2400	3400	3650	4550	5000	7900	7985
进料粒径(目) Feed diameter(mesh)		≥325	≥325	≥325	≥325	≥325	≥325	≥325
研磨细度(d95) Grinding Size		1.0～8.0 μm						
产量 (吨/H) Output (T/H)		0.2～0.8	0.4～1.0	0.6～1.3	0.8～1.8	1.0～2.2	1.2～3.6	1.6～5.5
设备重量 (吨) Weight (T)		2	2.8	4.5	7.5	10	15	20

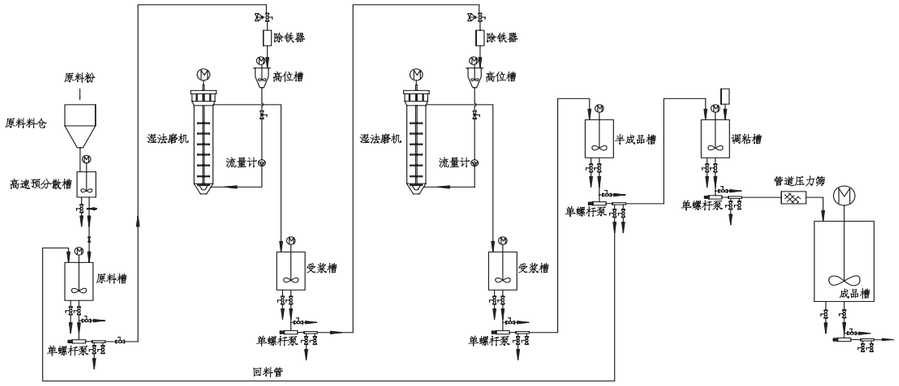
工艺流程图 Process flow diagram

以下工艺仅供产考，可根据用户细度，产能要求进行设计。

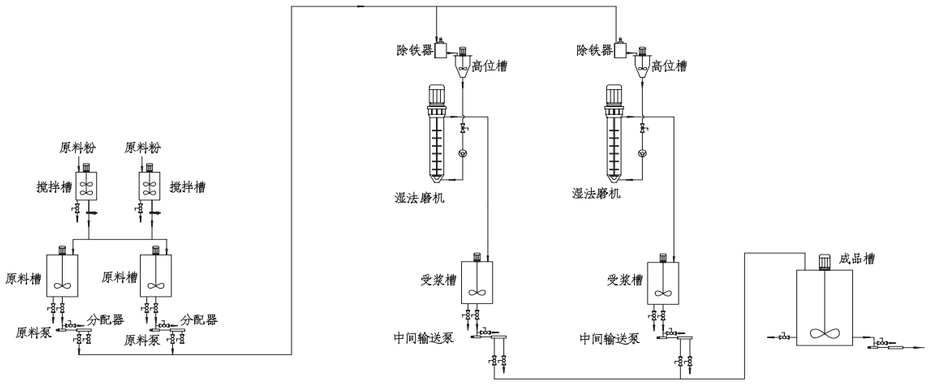
(1).单台湿法磨循环磨流程图 One set Wet Ball Mill flowchart



(2).两台磨机串联流程图 Two sets in series flowchart



(3).两台磨机并联流程图 Two sets in parallel flowchart



卧式砂磨机
Horizontal Sand Mill

产品概述

此型式的分散盘在槽孔和多轮廓的作用下，使研磨介质的球体产生强烈的碰撞和摩擦，使物料得到高效率的研磨分散。

该机采用经优化设计的机械密封，具有可靠性和耐用性，并配有与研磨物料相容性的冷却液，减少对研磨物料的污染。

适用于农药、涂料、油漆、油墨等行业的物料研磨，能将物料颗粒的聚体化，通过强力的研磨短时间内达到要求的细度。操作使用简单，可靠性好，生产效率高，能满足用户的需要。

特 点

- 可选配强度较好的氧化锆珠和研磨盘以达到更好的使用性能；
- 研磨筒体采用螺旋水冷技术，冷却效果好；
- 该机是目前市场上最早的湿法研磨设备，性能和结构非常成熟；
- 生产效率高，空间占用小；
- 操作简单，使用维护方便。

Product introduction

The type dispersing disk is functioned by the slot hole and multiplied profiles to produce the strong bump and fiction among mediate ball bodies. Therefore, the material can be ground and dispersed in high efficiency.

The machine adopts the dual end surface mechanical sealing with reliability and durability, mated with the coolant compatible to the ground material in order to reduce the pollution of ground material, suitable to grind the materials in coating, oil painting printing ink and pesticide industries. It makes the material into aggressiveness and give the strong grind so that the grains reaches the required fineness in short time. The machine is easily operated with reliability and high production efficiency. Depending on different requirements, the different models of machines can satisfy with customers.

FEATURES

Can select zirconium beads and grinding plates with high intensity to make the grinding power more centralized.The grinding cylinder adopt screw cooling technology, the cooling effect is good It is the earliest wet grinding equipments in the market. High production effect, Small dimension.
Simple operation and easy maintenance.

技术参数
Technical parameters

型号 Model / 参数 Parameter	MYM15A	MYM20A	MYM30A	MYM48A	MYM60A
筒体容积 Tank capacity L	15	20	30	48	60
电机功率 Motor power KW	11	18.5	22	37	45
产量范围 Production capacity kg/h	30~200	40~300	50~600	100~1000	150~1200
研磨细度 Fines	2μm-20μm				
输送泵型式 Pump type	隔膜泵/齿轮泵 Diaphragm pump/Gear pump				

密友MIYOU 国家高新技术企业

卧式珠磨机
Type Agitated Bead Mill

产品概述

适用于涂料、油漆、油墨、颜料、农药、造纸、非矿填料等物料的超细分散研磨，可以改变筒体装珠量，以满足各种不同的物料的需要，有强力的冷却系统，用微型的研磨介质研磨可达到高品质的要求，研磨白料不会发生发灰现象。

特 点

- 采用动态分离系统，研磨介质与物料易分离，不会产生堵塞；
- 研磨筒体、棒销、转子的材料可根据耐磨性，耐腐蚀性的要求加以更换；
- 可用于大流量生产，产品粒度分布窄；输入能量密度高，产品可达纳米级；
- 适用料浆的粘度范围广泛，在20 mPas－7000 mPas；
- 采用研磨筒体及转子强制冷却系统，出料温度低；
- 采用经优化设计的双端面机械密封（我司为“砂磨机用机械密封技术条件”HG/T2477标准制定单位）。

Product introduction

Applicable for super fine dispersing in coating ink,non mineral filling pin industry,and so on,easy to change tank storage capacity so as to meet different material requirement,equipped with strong cooling system.The small milling medium can meet high quality demana.

FEATURES

Adopt dynamic separation system, grinding media is easy be separated from the material;
The material of grinding tank、pin、& rotator can be changed according to the characteristics of the material.
Suitable for mass production, narrow distribution; high input energy density, can produce nano powders;
Suitable for a wide viscosity range, from 20 mPas - 7000 mPas;
The grinding cylinder and rotor forced cooling system, the material of low temperature
The optimized design of the double seals (our company is the standard setting unit of mechanical seals for sand mill technical conditions of HG/T2477)

技术参数
Technical parameters

型号 Model / 参数 Parameter	ABM2	ABM15	ABM25	ABM48	ABM60
筒体容积 Tank capacity L	1.6	15	25	45	60
电机功率 Motor power KW	4-6	22-37	37-45	55-75	70-90
产量范围 Production capacity kg/h	5-100	25-500	50-800	100-1500	200-2500
研磨细度 Fines	100nm-5μm				
输送泵型式 Pump type	隔膜泵/齿轮泵/螺杆泵 (Diaphragm pump/ Gear pump/ Screw pump)				

在线检测智能化气流粉碎系统
On-line Test Intelligent Jet Mill System

特 点

在线检检测智能化气流粉碎系统是在本公司原有的气流粉碎机技术基础上，St合在线检测技术和自动控制技术的一项高科技新产品。

物料在气流粉碎室内的数个喷《产生的高速气流冲击下.相互碰撞、相互摩擦、瞬间破裂，实现超细粉碎， 通过内置分级轮分选，合格产品随气流排出.进入旋风分离器、除尘器收集，粗颗粒返回粉碎室继续粉碎。整个粉碎过程的产品粒度状况由在线检测仪连续检测监控、显示并记录， 控制系统根据粒度的波动变化自动调整粉碎工艺参数，使产品质里、系统性能达到最大化。

工作原理

所需即所得，只耍您输入粒度要求，系统可以自动调整工艺参数至最佳值。

实时跟踪、监测物料的粒度状况，并提供多种显示界面，对过程中粒度波动及时自动调整和补偿。

自动生成粒度报告。

只需稍作调整，可用作离线粒度测试仪。

PRINCIPLE

On-line inspection jet mill is a new high-technology product based on the original technology of pulverizers in our company, combining online inspection technology with automatic control technology.

The high-speed airflow impact arising from several nozzles in the pneumatic pulverizing chamber enables the materials to collide and abrade each other, fracture instantly and finally achieve the purpose of superfine pulverization. After being sorted from the classifier, the confomnale products will be discharged with airflow and fed into the cyclone separator and then collected by the collector. The coarse particles are fed back to the coarse crusher for continuous pulverization. The situation of the particle size in the whole process is constantly inspected, shown and recorded by online inspector. According to the fluctuation of the particle size, the controlling system automatically regulates the milling parameter so as to make the quality of products and function of the system as perfect as possible.

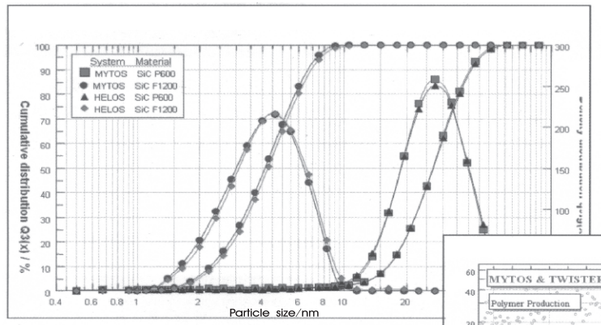
FEATURES

The onHine test system can autoregulate the parameter to a best value according to your input mesh data.

The particle mesh condition tracking and inspecting can be referred from the display interface. The granularity rebound data can be adjusted in the processing.

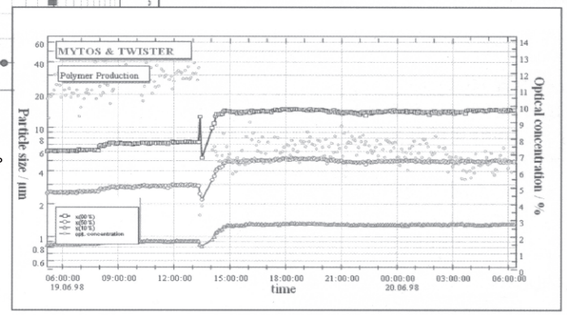
The granularity mesh report can be made up automatically.

The unit can be used as an off-line granularity tester with little adjustment.



◀在线检测结果与离线检测结果具有高度的重合性（见左图），因此在线生成的测试报告可作为产品的化验报告使用。

The on-line test result is superposition with off-line test data(see left chart). The record of on-line test report can be used as product analysis report.



► 产品的粒度变化实时显示，非常直观（见右图），在控制软件的作用下，当前粒度不断向目标粒度逼近。

It is obvious that product particle varies with time(see right chart). Under the control of software, the material particle size keeps approaching to the target size.

深冷气流粉碎系统（提供深冷粉碎加工服务）
(Offer the Tolling process servicefo deep-cold pulverizing)
Deep-cold Jet Milling System

工作原理

压缩气体通过制冷系统，将气体温度降至−120°C～−140°C,用于气流粉碎0.8MPa的研磨介质通过制冷系统使其温度降至−120°C～−140°C,实现物料在深冷状态下的超细气流粉碎。物料通过冷却呈低温脆化易粉碎状态后， 进入粉碎室，冷却后的压缩气体通过特殊配置的超音速喷嘴向粉碎室高速喷射，物料在超音速喷射流中加速，并在喷嘴交汇处反复冲击、碰撞，达到粉碎效果。

特 点

冷源形成一个闭路系统能得到充分的运用，省能耗。

制冷方式为"绿色"制冷方式，没有运用对环境造成危害的制冷剂，粉碎温度可达到−140° C，粉碎细度可达到 d_{97}=2um～15um。

粉碎时温度可控，能根据物料的脆化温度随机调节，选择最佳粉碎温度，降低能耗。

可以用惰性气体作为研磨介质实现低温、防爆、防氧化综合效果。

适用范围

该系统适用在常温下具有韧性、粘性、强纤维性的物料，广泛用于中药、西药、农药、化工、塑料、橡胶等多个行业的超细粉碎。

PRINCIPLE

The compressed gas is cooled down to -120～-140 though the refrigeration system, it can bring the temperature of the 0.8Mpa milling media down to -120～-1401: through the refrigeration system, thus render the superfine pneumatic pulverization possible under deep cold conditions. The materials, when cooled to breakable state, are fed to the milling chamber, where the cooled compressed gas is injected at a high speed by means of special ultrasonic nozzles. Therefore, the materials will be ground by being accelerated, impacted and collided repeatedly in the midst of ultrasonic injection flow. The ground materials will brought together with up flow to the grading chamber. The thinner grains will enter the grading wheel and be blasted to cyclone separator and collector. They cannot enter the grading wheel and will be swirled back into the milling chamber to further milling. The cooled gas will return to the compressor and will be compressed for recycling.

FEATURES

The cold source forms a closed circuit and therefore causes little energy loss.The cooling method is green as no polluting coolant is used. The milling temperature can be brought down to as low as -140°C, and the grinding size reaches d97=2µm～15µm.The milling temperature is controllable. It can be adjusted to the best milling temperature of a particular material to lower energy consumption.Inert gas can be used as media to achieve integrated effect of low temperature, anti-explosion and anti-oxidation.

APPLICATION SCOPE

The system is applicable to the materials that cannot be pulverized in normal temperature. It can be widely used in such fields as traditional Chinese medicine, chemical industry, plastic and rubber industries.

参数 Parameter / 型号 Model	QSF−260	QSF−400	QSF−600
生产能力(kg/h) Capacity(kg/h)	15～80	30～180	80～300
气体耗量(m^3/min) Air Consumption(m^3/min)	6	10	20
工作压力(Mpa) Working Pressure(Mpa)	0.75～0.85	0.75～0.85	0.75～0.85
进料粒径(目) Feed Diameter(mesh)	60～325	60～325	60～325
粉碎细度(µm) Grinding Size(µm)	0.5～30	0.5～30	0.5～30

环辊磨
Roller Mill

工作原理

环辊磨采用冲击、挤压、研磨的原理对物料进行粉碎，固定在磨轮支架上的磨轮与销轴之间有很大的活动间隙，当磨轮支架随主轴进行公转时，磨轮受离心力的作用甩向磨圈，并压紧磨圈内壁又围绕销轴作自转，物料通过磨轮与磨圈的间隙时，受到磨轮的冲击、挤压、研磨而粉碎。因此，粉碎效率高，物料粉碎充分，细度好。经国内知名专家学者认定该机型是目前国内先进的干法非金属矿超细粉体细磨设备。

PRINCIPLE

The Roller mill adopt impact、extrusion, grinding and other principles to crush the material, there's big gap between the grinding wheel and the pin bearing. when the grinding wheel support rotate with the main shaft, the grinding wheel will throw to the grinding ring under the centrifugal force, and press the inner wall of the grinding ring tightly and rotate round the pin bearing, when the material through the gap between the grinding wheel and grinding ring,it will grind under the impact、extrusion and grinding. Widely used for dry non-metallic ultra-fine powder.

特 点

- 投资省、效益高：与大型成套设备相比，投资节省了60%；
- 低能耗：与球磨机等其它产品比较，能耗可降低30%左右；
- 分级精度高：采用内分级装置，分级轮结构独特，分级效果好，无大颗粒污染。
- 磨耗低：粉碎副各易损件采用特殊耐磨合金制造，使用寿命长。
- 400目（D97=43um）产量可达６吨/小时；
  1250目（D97=10um）产量可达2吨/小时；
  3000目（D97=5um）产量可达1.2吨/小时。

FEATURES

Less investment、 high efficient : it can save 60% compared to other complete set of equipment;
Low energy consumption: The energy consumption can reduce 30% compared to ball mill;
High classification precision: adopt inner classifying device, special classifying wheel structure, no large particle pollution.
Low abrasion: the pulverize friction with special resistant alloy parts manufacturing, long service life
The capacity could reach 6t/h for 400 mesh (D97=43um);
The capacity could reach 2t/h for 1250 mesh (D97=10um);
The capacity could reach1.2t/h for 3000 mesh (D97=5um);

技术参数：
Technical Parameters

机型 Model / 目数 Mesh	MT-188		HLM-880D		HLM-580	
	产量 (kg/h) Capacity	电耗 (kw) Power	产量 (kg/h) Capacity	电耗 (kw) Power	产量 (kg/h) Capacity	电耗 (kw) Power
400目	6000-7000	22	4000-5000	27	1000-1200	50
800目	3000-3500	45	1800-2100	60	800-900	70
1250目	2000-2500	70	1200-1500	95	450-550	110
1500目	1800-2000	73	1000-1200	110	350-400	140
1800目	1500-1800	90	800-1000	136	300	185
2500目	1200-1300	120	600-800	175	——	——
3000目	900-1100	145	500-700	200	——	——

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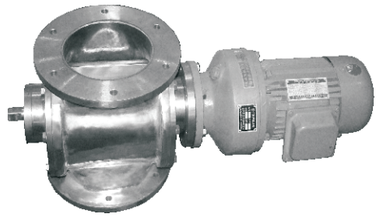
星型出料阀
Rotary Valve

星型出料阀采用我公司进口数控加工中心制作，一次成型，产品精度高，密闭性能好，广发运用于化工、制药、粮食加工等行业

The rotary valve is processd by our CNC processing center. It is shaped once with high precision quality, good sealing. The rotary valve is widely used in the Chemical, Pharmaceutical, Foodstuff etc. processing industry.



星型出料阀主要技术参数
Major Technical Parameters

型 号 Model	电机功率 Power	容积 Volume	转速 Rotate Speed	机重（带电机） Weight
XLF0.5L	0.37KW	0.5L/r	24r/min 或40r/min	45KG
XLF2L	0.75KW	2L/r	24r/min 或40r/min	80KG
XLF5L	0.75KW	5L/r	24r/min 或40r/min	105KG

精密过滤器、高效除油器
Precise Filter、Oil remover

基本参数
Technical Parameters

参数 Parameters / 名称 Name	精密过滤器 Precision filter	高效除油器 Oil remover
过滤精度 Filtrate Precision	气体 GAS：0.01 μm	气体 GAS：0.01 μm
过滤面积 Filtrate Area	3m², 6m², 10m², 20m²	3m², 6m², 10m², 20m²

粉碎机、分级机应用实例
Applications of Pulverizer and Grader

化工类超细粉碎实例（部分）
Chemical Materials Pulverizing Applications(Partial)

物料名称 Material	机型 Model	进料粒径（目） Feed diameter(mesh)	出料粒径 Final Diameter	产量（kg/h） Capacity	空气耗量(m^3/min) Air consumption(m^3/min)
氧化铈 Ceria	QYF-260	400	D_{97}, 4.69μm	30	6
阻燃剂 Fire retardant	QYF-260	400	D_{97}, 8.04μm	10	6
氧化铬绿 Chrome green	QYF-260	150	D_{97}, 4.50μm	25	6
发泡剂 Foaming agent	QYF-400	D_{97}, 11.52μm	D_{50}, 1.70μm	61	10
碳酸锂 Lithium carbonate	QYF-400	200	D_{50}, 1.30μm	60	10
溴联苯醚 Brominated diphenyl ethers(BDEs)	QYF-400	325	D_{97}, 3.50μm	150	10
塑料黄 AGR plastic yellow	QYF-400	500	D_{97}, 3.65μm	250	10
染料 Dye	QYF-400	60	D_{50}, 1.53μm	80	10
荧光粉 Luminescent powder	QYF-260	100	D_{100}, 9.50μm	40	6
硼酸锌 Zinc borate	QYF-400	400	D_{97}, 4.80μm	126	10
碳化钨 Tungsten carbide	QYF-260	1000	D_{97}, 1.17μm	40	6
荧光增白剂 Fluorescent agent	QYF-400	100	D_{97}, 8.09μm	84	10
硫酸钡 Barium sulphate	QYF-400	100	D_{100}, 4.6μm	105	10
钢化玻璃 Toughened glass	QYF-260	600	D_{97}, 4.80μm	45	6
硝酸胍 Carbamidine nitrate	QYF-400	100	D_{97}, 10.05μm	80	10
甘氨酸铝锆 Aluminum Ziconium Glycine	QYF-400	80	D_{97}, 9.85μm	60	10
硅酸锂 Lithium Silicate	QYF-260	80	D_{97}, 9.85μm	45	6
硅酸铝 Aluminum Silicate	QYF-260	150	D_{97}, 12.3μm	55	6
甲灭酸 Mefenamic Acid	QYF-400	80	D_{97}, 10μm	120	10
聚四氟乙烯 Polytetrafluoroethylene(PTFE)	QYF-600	120	D_{97}, 18μm	107	20
维生素C（氮气保护） Vitamin C(Nitrogen protection)	QBF-400	50	D_{97}, 300mesh	260	10
双氰铵 Cyanoguanidine	QYF-400	80	D_{97}, 1000mesh	100	10
玻璃绿 Emerald	QYF-400	120	D_{97}, 1500mesh	90	10
灭菌剂 Bactericidal agent	QYF-400	60	D_{97}, 1250mesh	120	10
乙胍 Guanfacine	QYN-400	60	D_{97}, 800mesh	160	10
陶瓷釉料 Porcelain glazes	QYF-400	325	D_{97}, 2000mesh	50	10
硅胶 Silica gel	QYF-400	325	D_{97}, 800mesh	150	10
钛酸钾 Potassium titanate	QYF-260	325	D_{97}, 2.60μm	50	6
碳化钛 Titanium carbide	QYF-260	800	D_{97}, 2.01μm	35	6
苯酸钠 Sodium benzoate	QYF-260	1000	D_{97}, 2.05μm	48	6
树脂 Resin	QYF-260	325	D_{97}, 9.85μm	20	6
聚乙烯蜡 Polyethylene wax	QYF-260	325	D_{97}, 7.31μm	38	6
干粉灭火剂 Powder extinguishing agent	QYF-400	325	D_{97}, 3.98μm	110	10

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金属、金属氧化物超细粉碎实例（部分）
Nonmetal Minerals Pulverizing Applications(Partial)

物料名称 Material	机型 Model	进料粒径（目） Feed diameter(mesh)	出料粒径 Final Diameter	产量（kg/h） Capacity	空气耗量(m^3/min) Air consumption(m^3/min)
氧化铁 Ferric oxide	QYF-260	1000	D_{97}, 1.28μm	60	6
氧化铝 Alumina	QYF-400	150	D_{97}, 2.07μm	30	10
氧化钴 Cobalt oxide	QYF-260	325	D_{50}, 4.31μm	90	6
氧化镍 Nickel oxide	QYF-260	325	D_{50}, 4.84μm	132	6
氧化钇 Yttria	QYF-260	300	D_{97}, 800mesh	50	6
锌粉（氮气保护） zic dust(Nitrogen protection)	QBF-400	80	D_{97}, 100mesh	80	10
钴粉（氮气保护） Cobalt powder(Nitrogen protection)	QBF-400	325	D_{50}, 3.52μm	107	10
镍粉（氮气保护） Nickel powder(Nitrogen protection)	QBF-400	20	D_{50}, 17.30μm 氧含量增长<0.03% Oxide increasing<0.03%	500	10

非金属矿类超细粉碎实例（部分）
Nonmetal Minerals Pulverizing Applications(Partial)

物料名称 Material	机型 Model	进料粒径（目） Feed diameter(mesh)	出料粒径 Final Diameter	产量（kg/h） Capacity	空气耗量(m^3/min) Air consumption(m^3/min)
叶腊石 Pyrophillite	QYF-260	150	D_{97}, 7.30μm	80	6
尖晶石 Spinel	QYF-260	300	D_{97}, 4.78μm	25	6
滑石 Talcum	QYF-720	325	D_{97}, 10μm	1200	40
氢氧化镁 Magnesium hydroxide	QYF-400	325	D_{97}, 2.04μm	160	10
氢氧化铜 Cuprum hydroxide	QYF-400	325	D_{97}, 2.52μm	40	10
氧化铁红 Iron oxide red	QYF-260	1000	D_{97}, 1.28μm	60	6
石英 Quartz	QYF-400	200	D_{50}, 3.19μm	60	10
碳酸钙 Calcium carbonate	QYF-400	325	D_{97}, 800mesh	150	10
重晶石 Barite	QYF-400	325	D_{50}, 1.45μm	180	10
高岭土 Kaolin	QYF-600	400	D_{50}, 2.02μm	135	20
稀土 Rare earth	QYF-260	325	D_{97}, 2.98μm	45	6
膨润土 Bentonite	QYF-400	325	D_{50}, 3000mesh	70	10
磷酸三钙 Tricalcium phosphate	QYF-400	100	D_{97}, 11.84μm	88	10
云母 Mica	QYF-600	400	D_{50}, 3.34μm	180	20
石墨 Graphite	QYF-600	D_{50}, 3.87μm	D_{50}, 0.66μm	90	20
凹凸棒 Attapulgite	QYF-720	300	D_{97}, 10μm	1000	40
黑硅 Chert	QYF-720	400	D_{97}, 400mesh	1000	40
硝酸胍 Carbamidine nitrate	QYF-400	100	D_{97}, 10.05μm	80	10
甘氨酸铝锆 Aluminum Zirconium Glycine	QYF-400	80	D_{97}, 9.85μm	60	10

西药粉碎实例（部分）

Western Medicine Pulverizing Applications (Partial)

物料名称 Material Name	机型 Machine Type	成品细度 Finished Product Fineness	产量kg/h Capacity (kg/h)
阿普洛韦 Aciclovir	QYF-400	D_{97}, 10 μ m	125
阿苯达唑 Albendazole	QYF-400	D_{97}, 10 μ m	130
尼莫地平 Nimodipime	QYF-400	D_{97}, 10 μ m	120
知阿可尔 Guaiacol Sulfonate Sodium	QYF-400	D_{97}, 12 μ m	140
美洛昔康 Meloxicam	QYF-400	D_{97}, 10 μ m	140
非诺贝特 Fenofibrate	QYF-400	D_{97}, 10 μ m	120
阿莫西林 Amoxicillin	QYF-400	D_{97}, 10 μ m	150
舒喘灵碱 Salbutamol	QYF-400	D_{97}, 5 μ m	80
氢化可的松 Hydrocortisone	QYF-400	D_{97}, 10 μ m	120
土霉素 Oxytetracycline	QYF-400	D_{97}, 10 μ m	135
普鲁卡因氰霉素 Procaine Benzylpenicillin	QYF-260	D_{97}, 6. 19 μ m	45
布洛芬 Ibuprofen	QYF-400	D_{97}, 10 μ m	120
消炎痛 Intracellular	QYF-400	D_{97}, 10 μ m	140
消炎痛 Intracellular	QYF-260	D_{97}, 5 μ m	75
扑米酮 Primidone	QYF-400	D_{97}, 10 μ m	145
氟甲喹 Flumequine	QYF-400	D_{97}, 25 μ m	200
心律平 Propafenone	QYF-400	D_{97}, 12 μ m	135
泼尼松 Prednisone	QYF-260	D_{97}, 5 μ m	45
丙硫 Prothi	QYF-400	D_{97}, 10 μ m	145
吉非罗齐 Gemfibrozil	QYF-260	D_{97}, 9. 9 μ m	78
羟基纤维素 Hydroxylose	QYF-260	D_{97}, 10 μ m	60
吡奎酮 Praziquantel	QYF-400	D_{97}, 29. 14 μ m	220
噻嘧啶 Pyrantel	QYF-260	D_{97}, 5μ m	40
安宫黄体酮 Progesterone	QYF-400	D_{97}, 5μ m	80
单硫酸卡纳霉素 Single Kanamycin Sulfate	QYF-260	D_{97}, 5μ m	40
咪喹莫特 Lmiquimod	QYF-260	D_{97}, 10 μ m	50
扑热息痛 Paracetamol	QYF-260	D_{97}, 12. 5μ m	30
舒他西林碱 Sultamicillin (base)	QYF-400	D_{97}, 30μ m	150
左氧氟沙星 Levofloxacin	QYF-260	D_{97}, 30μ m	80
左旋丙碱 L-Carnitine	QYF-260	D_{97}, 15μ m	70
硝酸益康唑 Econazole Nitrate	QYF-260	D_{97}, 12. 61μ m	65
盐酸金霉素 Chlortetraclini hydrochloridum	QYF-260	D_{97}, 5. 94μ m	35
曲安奈德 Triamcinolone acetonide	QYF-260	D_{97}, 15. 38μ m	55

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中药粉碎实例（部分）

TCM Superfine Pulverizing Applications (Partial)

物料名称 Material Name	机型 Machine type	成品细度 Finished Product Fineness	产量kg/h Output, kg/h
刺五加 Acanthopanax Senticosus	QYF-400	d_{90} <2μm	60
灯芯草 Ruah Pith	QYF-260	d_{90} <10μm	20
灵芝粉 Glossy ganoderma powder	QYF-260	d_{90} <10μm	20
三七 Radix Notoginseng	QYF-400	d_{50} <5μm	30
魔芋粉 Rhamnose	QYF-500	d_{50} <5μm	100
田七 Pseudo-ginseng	QYF-260	d_{90} <10μm	30
香菇 Chinese mushroom	QYF-400	d_{90} <8μm	60
绿茶 Green tea	QYF-600	d_{50} <5μm	150
胡萝卜 Carrot	QYF-260	d_{90} <10μm	30
人参 Ginseng	QYF-260	d_{50} <2μm	20
芹菜 Celery	QYF-260	d_{90} <10μm	20
菠菜 Spinach	QYF-260	d_{90} <8μm	15
羊胎盘 Sheep Placenta	QYF-500	d_{50} <2μm	50
甲壳素 Chitin	QYF-260	d_{90} <10μm	50
葛根 Pueraria Root	QYF-600	d_{50} <5μm	200
荔蒲芽 Lipu Taro	QYF-260	d_{90} <8μm	30
甘草粉 Licorice Powder	QYF-260	d_{50} 500nm	20
大枣碳 Chinese Date Carbon	QYF-260	d_{50} 1000nm	25
枸杞 Medlar	QYF-260	d_{50} <5μm	30
大麦苗粉 Wheat Flour	QYF-500	d_{90} <10μm	100
苦瓜籽 Balsam pear seed	QYF-260	d_{90} <10μm	30
鹿骨粉 Deer Bone Powder	QYF-400	d_{50} <5μm	50
鹿骨粉 Deer Bone Powder	QYF-260	d_{50} <2μm	20
银杏白果 Ginkgo	QYF-260	d_{50} <2μm	20
珍珠粉 Pearl powder	QYF-400	d_{50} <6. 10μm	145
松花粉 Pine Pollen	QYF-260	破壁98%以上	50
蜂花粉 Honey Pollen	QYF-400	Broken wall 98% or above	30
丹参 Dan-shan Root	QYF-260	D_{97},1000目(mesh)	20
黄芪 Milkvetch Root	QYF-260	D_{97},1000目(mesh)	23
焦神曲 Massa Fermentata	QYF-400	D_{97},800目(mesh)	48
麦芽粉 Malt powder	QYF-400	D_{97},800目(mesh)	42
去籽山楂 Hawthorn Fruit	QYF-400	D_{97},800目(mesh)	58
半夏 pinellia tuber	QYF-260	D_{97},800目(mesh)	45
黄芩 Baikalskullcap Root	QYF-260	D_{97},800目(mesh)	26
金银花 Honeysuckle flower	QYF-260	D_{97},800目(mesh)	48
太子参 Heterophy falesestarwort root	QYF-260	D_{97},800目(mesh)	52
肉桂 Cassia Bark	QYF-260	D_{97},800目(mesh)	46
赤豆 Adsuki Bean	QYF-260	D_{97},800目(mesh)	49
陈皮丹 Tangerine peel	QYF-260	d_{97},≤6.5 μ m	32
绿豆粉	QYF-400	d_{97},9.5 μ m	70

农药粉碎实例（部分）

Pesticide Superfine Pulverizing Applications (Partial)

名 称 Description	机 型 Type	进料粒径(mesh) Filling grain diameter (mesh)	出料粒径 Discharge grain diameter	产量kg/h Output kg/h	空气耗量 Air consumption
吡虫蛉 Imidacloprid	QYF260	60	d_{97}=16.73um	160	6
吡虫蛉 Imidacloprid	QYF400	80	d_{97}=7.99um	100	10
吡虫蛉 Imidacloprid	QYF600	80	d_{97}=5.67um	160	20
粉唑醇 Powder thiazole alcohol	QYF600	80	d_{97}=10.50um	350	20
戊唑醇 E thiazole alcohol	QYF600	80	d_{97}=25.13um	450	20
吡氟草胺 Imidacloprid fluorine grass amine	QYF400	80	d_{97}=19.93um	245	10
苯丁锡 Fenbutatin oxide	QYF600	100	d_{97}=11.50um	520	20
杀菌剂 Pesticide	QYF600	80	d_{97}=18.73um	800	20
定虫脒 Acetamiprid	QYF260	40	d_{97}=35.03um	150	6
抗菌剂 Antimicrobial	QYF260	100	d_{97}=12.57um	80	6
多菌灵 Carbendazim	QYF400	80	d_{97}=19.18um	350	10
除草剂 Herbicide	QYF400	100	d_{97}=16.55um	260	10
克霉唑 Clotrimazole	QYF260	120	d_{97}=9.89um	85	6
噻菌灵 Thiabendazole	QYF400	100	d_{97}=21.94um	220	10
可湿性粉剂 Wetting Powder	QYF400	200	悬浮率>90% Suspension percentage	230	10

WFJ涡轮式分级机分级实例（部分）

WFJ Turbine Grader Grading Applications (Partial)

物料名称 Material Name	机型 Machine type	进料颗粒(mesh) Filling material grain (mesh)	分级后粒径 Grain Diameter after Grading		处理量(kg/h) Processing Amount (kg/h)
			细粉 Fine Powder	粗粉 Coarse Powder	
轻钙 Fine particle calcium carbonate	WFJ—260	300	d_{97},4.78μm	d_{50},15.30μm	120
高岭土 Kaolin	WFJ—400	400	d_{97},5.80μm	d_{50},15.20μm	500
石英 Quartz	WFJ—400	250	d_{97},10μm	d_{50},18μm	600
氧化钙 Calcium oxide	WFJ—400	300	d_{97},8.07μm	d_{50},16.50μm	600
碳酸钙 Calcium carbonate	WFJ—400	325	d_{97},9.51μm	d_{50},15.10μm	800
滑石 Talc	WFJ—600	800	d_{97},4.36μm	d_{50},12.10μm	1500
滑石 Talc	WFJ—600	325	d_{97},6.72μm	d_{50},14.34μm	1400
碳酸钙 Calcium carbonate	WFJ—600	325	d_{97},7.72μm	d_{50},15.12μm	1500
绢云母 Sericite	WFJ—600	325	d_{97},10μm	d_{50},17.20μm	1300
碳酸钙 Calcium carbonate	WFJ—720	500	d_{97},6.82μm	d_{50},16.70μm	1600
碳酸钙 Calcium carbonate	WFJ—720	600	d_{97},6.25μm	d_{50},16.20μm	1650
滑石 Talc	WFJ—800	500	d_{97},6.80μm	d_{50},15.60μm	1500
微珠 Bead	WFJ—800	300	d_{97},10μm	d_{50},17.50μm	2500
微珠 Bead	WFJ—800	300	d_{97},5μm	d_{50},17.70μm	1800
碳酸钙 Calcium carbonate	WFJ—800	325	d_{97},7.75μm	d_{50},17.70μm	2000
高岭土 Kaolin	WFJ—800	600	d_{97},5μm	d_{50},14.70μm	1500
硅灰石 Wollastonite	WFJ—800	325	d_{97},9.04μm	d_{50},15.70μm	2000

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目数与筛网对照表

Comparison Table of Mesh and Screen

网格宽 Mesh width	德国标准 German Standard	美国标准 American Standard	泰勒标准 Taylor Standard	英国标准 British Standard	网格宽 Mesh width	德国标准 German Standard	美国标准 American Standard	泰勒标准 Taylor Standard	英国标准 British Standard
μ	mm	No	Mesh	Mesh	μ	mm	No	Mesh	Mesh
5	0.005		2500	2500	140	0.140			
10	0.010		1250	1250	150		100	100	100
15	0.015		800	800	160	0.160			
20	0.020		625	625	180	0.180	80	80	85
22	0.022				200	0.200			
25	0.025		500	500	212		70	65	72
28	0.028				224	0.224	65	62	66
32	0.032		425	425	250	0.250	60	60	60
36	0.036				280	0.280			
38		400	400	400	300		50	48	52
40	0.040				315	0.315			
45	0.045	325	325	350	355	0.355	45	42	44
50	0.050				400	0.400			
53		270	270	300	425		40	35	36
56	0.056				450	0.450			
63	0.063	230	250	240	500	0.500	35	32	30
71	0.071				560	0.560			
75		200	200	200	600		30	28	25
80	0.080				630	0.630			
90	0.090	170	170	170	710	0.710	25	24	22
100	0.100				800	0.800			

物料的莫氏硬度对照表（部分）

Comparison Table of Material Hardness (Mohs scale) (Partial)

物 料 Material	密度g/cm³ Density (g/cm³)	莫氏硬度 Hardness	物 料 Material	密度g/cm³ Density (g/cm³)	莫氏硬度 Hardness	物 料 Material	密度g/cm³ Density (g/cm³)	莫氏硬度 Hardness
滑石 Talcum	2.7—2.8	1	石墨 Graphite	2.1—2.2	1	氧化铬 Chromium Oxide	3—4	4—5
石膏 Gypsum	2.3	2	高岭土 Kaolin	2	2	釉料 Glaze	3—4	4—5
方解石 Calcite	2.6—2.8	3	重钙 Heavy Calcium Carbonate	2.6—2.8	2—3	电气石 Tourmalin	3.03—3.25	7
萤石 Fluorite	3.0—3.2	4	重晶石 Barite	4.3—4.7	3—3.5	碳化钨 Tungsten carbide	15.7	9.0—9.4
磷灰石 Apatite	3.2	5	珍珠岩 Perlite	2—3	2—3	碳化硅 Carborundum	2.7—3.3	9.2—9.6
正长石 Orthoclase	2.5—2.6	6	叶腊石 Pyrophyllite	3	2—3	可可豆 Cacao	1—2	1—2
石英 Quartz	2.5—2.8	7	氢氧化铝 Aluminum hydroxide	2.42	3	中药 TCM	1—2	1—2
黄玉 Topaz	3.53	8	水镁石 Brucite	3—3.5	3—4	西药 Western medicine	1—2	1—2
刚玉 Corundum	3.9—4.1	9	白云石 Dolomite	2.8—2.9	3.5—4	兽药 Veterinary drug	1—2	1—2
金刚石 Diamond	3.5	10	钾长石 Potash feldspar	2.6—2.8	5	农药 Pesticide	1—2	1—2

◀ **2003年10月18日密友迁入新址**
Miyou moved into new plant on Oct.18, 2003

2008年7月23日密友集团有限公司揭牌
July 23rd,2008, Miyou Group Founded
▼

▲
中国超微粉碎行业暨昆山密友国家超微粉碎示范基地发展研讨会在北京国际会议中心举行
Symposium of China's Ultrafine Grinding Industry & Naming Ceremony of Kunshan Miyou's National Exemplary Base for Ultrafine Grinding Plant held at Beijing International Convention Center

▲
2012年8月3日密友集团开新大门！
New Gate relocate ceremony on Aug.3th, 2012

◀ 中华人民共和国科学技术部国家非金属矿深加工工程技术研究中心研究实验工地揭牌仪式
Unveiling Ceremony for National Engineering Research Center for Further Processing of Non-metallic Minerals, the Ministry of Science and Technology, the People's Republic of China

密友MIYOU 国家高新技术企业

◀ 全国人大常委会副委员长顾秀莲（左一）
在《节能减排》会议上接见吴建明董事长（左三）

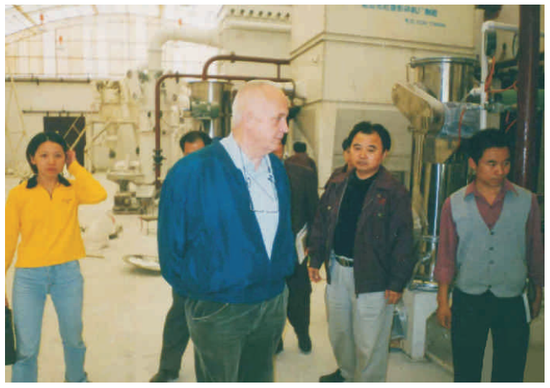
图左二为：中国化工报社社长郝长江先生
图左四为：巴斯夫大中华地区总裁关志华先生

Gu xiulian- Vice-chairman of People's National council interviewed Mr. Wu Jianming in the Emission reduction and energy-saving meeting.

Left pic. Second: Mr. Hao Changjiang-China Chemical magazine proprieter
Left pic. Fourth: Mr. Guan Zhihua-BASF China area CEO

▲ 原中国石油和化学工业协会会长谭竹州先生来我公司参观指导
Mr. Tan Zhuzhou, Vice President of China Petroleum & Chemical Industry Association, inspecting our company

▲ 中共第十七届中央委员会委员、吉林省省委书记王珉同志来我公司视察
Wang Ming-the former Jilin province secretariat came to our factory for inspection.



◀ 2001年10月20日世界顶级粉体专家Frank先生来我公司订购粉碎机
The world powder expert Frank reviewed MIYOU jet mill on 20th,Oct. 2001.