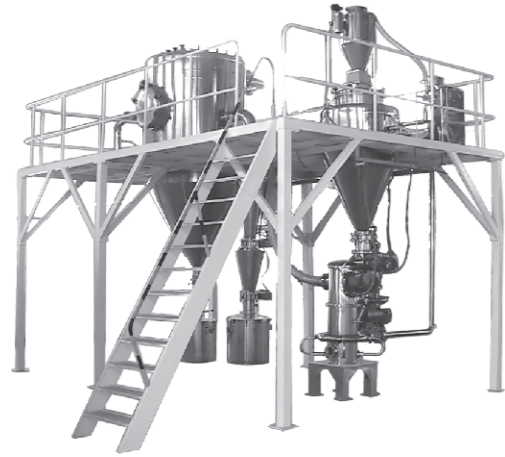


惰性气体保护粉碎机系统 Inert Gas Protection Jet Mill System



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器设定的数值，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 $d_{97}=2\sim 15\mu\text{m}$ 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 pulverization. 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: $d_{97} = 2\sim 15\mu\text{m}$
- Fully automatic control could be realized as such advanced technology as touch-sensitive screen and programmable PLC controller are used in the unit.

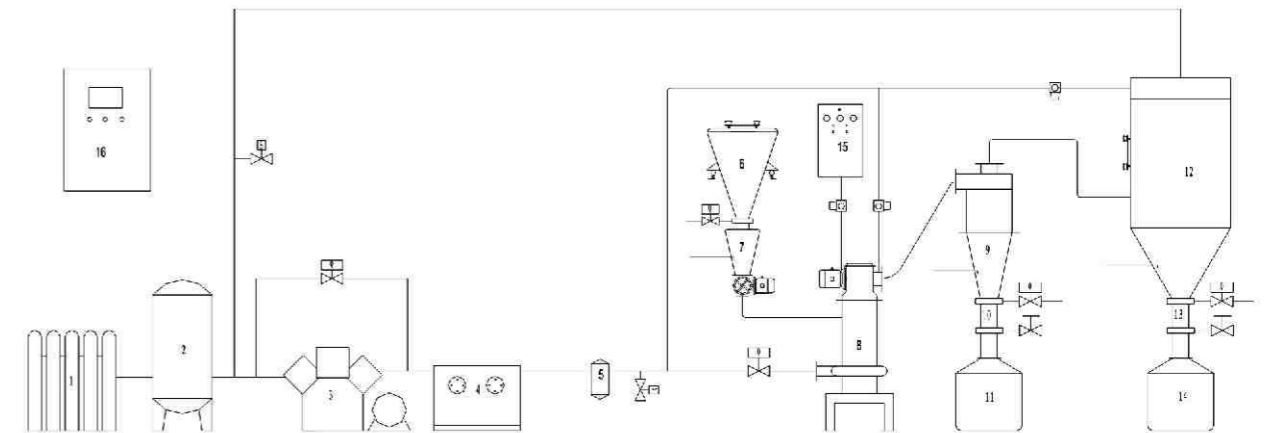
APPLICATION SCOPE

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.

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



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|-----------|----------------|---------------------------------------|---|
| 1、氮气源 | 8、QBF流化床气流粉碎机 | 1. Nitrogen gas source | 8. QBF fluidized-bed jet mill |
| 2、储气罐 | 9、旋风分离器 | 2. Air storage tank | 9. Cyclone separator |
| 3、氮气压缩机 | 10、13 过渡成品料筒 | 3. Nitrogen gas compressor | 10.13. Transitional products storage tank |
| 4、空气冷冻干燥机 | 12、除尘器 | 4. Air cooling drier | 12. Dust collector |
| 5、空气过滤器 | 11、14 成品料筒 | 5. Air filter | 11.14. Finished goods tank |
| 6、原料仓 | 15、气路控制系统 | 6. Material storage tank | 15. Circuit distributing system |
| 7、过渡原料仓 | 16、操作终端、在线检测中心 | 7. Transitional material storage tank | 16. Man-machine interface |