

流化床气流粉碎机 Fluidized-Bed Jet Mill

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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%。

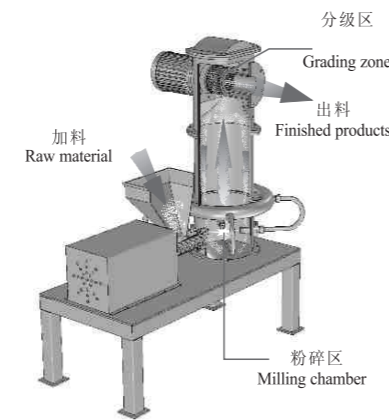
- 对易燃、易爆物料可用惰性气体作工质粉碎。

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.

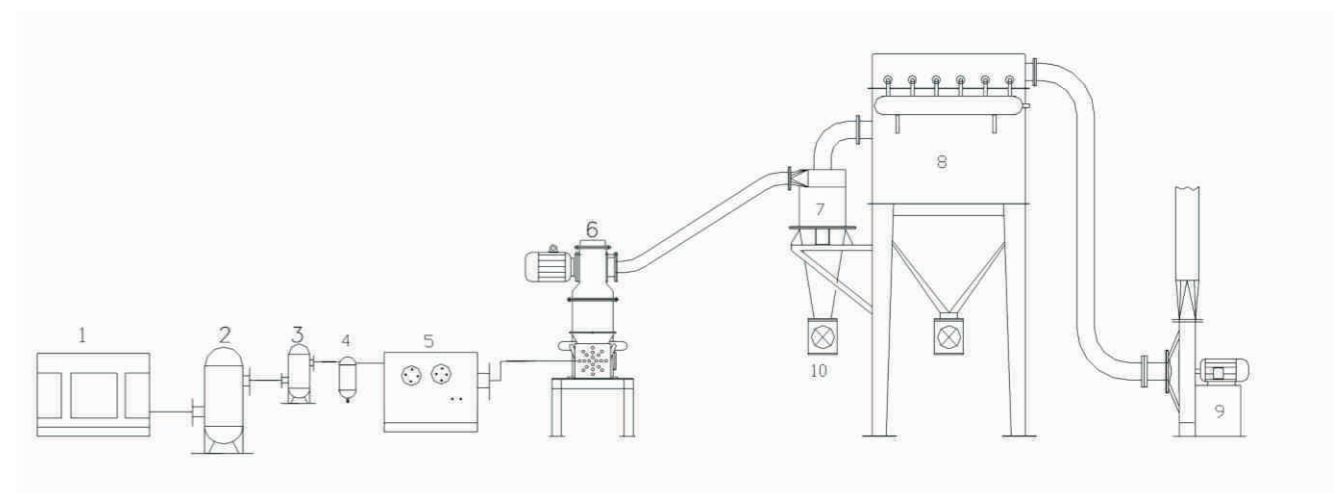
APPLICATON SCOPE

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(m ³ /min) Air Consumption(m ³ /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