



万佳干燥

WANJIA DRYING

常州市万佳干燥设备有限公司

CHANGZHOU WANJIA DRYING EQUIPMENT CO.,LTD.

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公司简介

Company profile

万佳干燥是一家具有多年经验的干燥设备生产厂家，只要你一个电话我们就会根据我们的经验，为客户提供干燥工艺前后端的一揽子解决方案——离心、干燥、粉碎、混合、制粒。

万佳——优秀的物料干燥设备和设备供应商。

几十名有着10年干燥设备研制和生产经验的专业人才组成了一支富有战斗力和创造力的团队。

公司将以清晰的产品定位,公正的产品价格,完善的售后服务，倾力打造干燥行业的实力品牌---万佳。

Wanjia drying is a company with years of experience in the drying equipment manufacturers, as long as you have a phone we will according to our experience, to provide customers with the drying process before and after the end of the package solution - centrifugal, drying, crushing, mixing, granulation.

Wanjia - excellent material drying equipment and equipment suppliers.

Dozens of with 10 years of drying equipment development and production experience of the professionals formed a powerful and creative team.

The company will be a clear product positioning, fair price, perfect after sale service, tries their best to build the drying industry strength brand --- wanjia.



我们拥有世界先进的生产装备，运用崭新的管理概念及强大的专业技术力量，生产出符合国际标准的高品质产品。千锤百炼，一丝不苟，标准化的管理体系和系统化的品质保证体系，造就了我们出类拔萃的品质。

We have the advanced production equipment, the use of new management concepts and strong technical force, in line with international standards to produce high quality products. Thoroughly tempered, meticulous, systematic and standardized management system and quality assurance system, created our outstanding quality.

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干燥篇

DRYER ARTICLES





SZG双锥真空干燥机是我厂在结合国内同类产品技术所开发新一代干燥装置，双锥真空具备皮带、链条两级弹性联结方式，因而设备运行平稳。特别设计的工装，充分体现了两支轴的良好同心，热媒及真空系统均采用可靠的国外技术的旋转接头。在此基础上，我们开发了SZG-A，它既可无级调速，又能进行恒温控制。

作为专业干燥设备制造厂，我们以每年百余台服务于用户，本厂产品从高温导热油为热媒介质、中温蒸汽及低温热水一应俱全。干燥粘性物料时，本厂将在罐内为您特别设计“抄板”机构或设置滚珠。

SZG Series Double Taper Vacuum Drier is a new generation drying device developed by our factory on the basis of combining the technology of same products. It has two connecting ways, i.e. Pulley or chain. Therefore it is stable in operation. The special design guarantees two shafts realize good concentricity. Heat medium and vacuum system all adapt reliable machinery seal or rotating joint made from abroad. On the basis, we also developed SZG-A. It can carry out steeples speed change and constant temperature control.

As a special factory in drying industry, we provide hundreds of set to customers for their use. As for working medium, it may be high temperature conduction heat oil or middle temperature steam. For drying the adhesive raw material, the factory has designed specially a stirring plate for you.

适用化工、制药、食品等行业的粉状、粒状及纤维状物料的浓缩、混合、干燥及需低温干燥的物料(如生化制品等)，更适用于易氧化、易挥发、热敏性、强烈刺激、有毒性物料和不允许破坏结晶体的物料的干燥。

It is suitable for the raw materials that need to concentrate, mix and dry at low temperature (for example, biochemistry products in chemical, pharmaceutical and foodstuff industries. Particularly it is suitable for the raw materials that are easy to oxidize, volatilize and have strong heat sensitive and toxic and not permitted to destroy its crystal in drying.



原理 Principles

- 在密闭的夹层中通入热能源(如热水、低压、蒸汽或导热油)，热量经内壳传给被干燥物料。
- 在动力驱动下，罐体作缓慢旋转，罐内物料不断地混合，从而达到强化干燥的目的。
- 物料处于真空状态，蒸汽压下降使物料表面的水份(溶剂)达到饱和状态而蒸发了，并由真空泵及时排出回收。物料内部的水份(溶剂)不断的向表面渗透、蒸发、排出，三个过程不断进行，物料在很短时间内达到干燥目的。
- Let heat source (for example, low pressure steam or heat conduct oil) pass through the sealed jacket. The heat will be transmitted to raw material to be dried through inner shell;
- Under driving of power, the tank is rotated slowly and the raw material inside it is mixed continuously. The purpose of reinforced drying can e realizd;
- The raw material exists at the state of vacuum. The drop of team pressure makes the moisture (solvent) at the surface of raw material become saturation and will evaporate. The solvent will be discharged through vacuum pump an drecovered in time. The inner moisture (solvent) of raw material will infiltrate, evaporate and discharge continuously. The three processes are carried outunceasingly and the purpose of drying can be realized within a short time.

技术参数 Technical parameters

项目 Item		机型 Type										
名称 Name	单位 Unit	100	200	350	500	750	1000	1500	2000	3000	4500	5000
总容积 Total volume	L	100	200	350	500	750	1000	1500	2000	3000	4500	5000
工作容积 Working volume	L	≤50	≤100	≤175	≤250	≤375	≤500	≤750	≤1000	≤1500	≤2250	≤2500
加热面积 Heating area	m ²	1.16	1.5	2	2.63	3.5	4.61	5.58	7.5	9.6	13.8	15.2
转速 Speed	rpm	6								4	4	4
功率 Power	kw	0.75	1.1	1.5	2.2	2.2	3	4	5.5	7.5	15	18.5
回转高度 Height of rotating frame	mm	1810	1910	2090	2195	2500	2665	2915	3055	3330	4210	4500
整机重量 Total weight	Kg	550	700	900	1100	1200	1300	1500	2000	3000	4000	4200
罐内设计压力 Design pressure inside tank	Mpa	-0.09~0.096										
夹层设计压力 Design pressure inside jacket	Mpa	≤0.3										

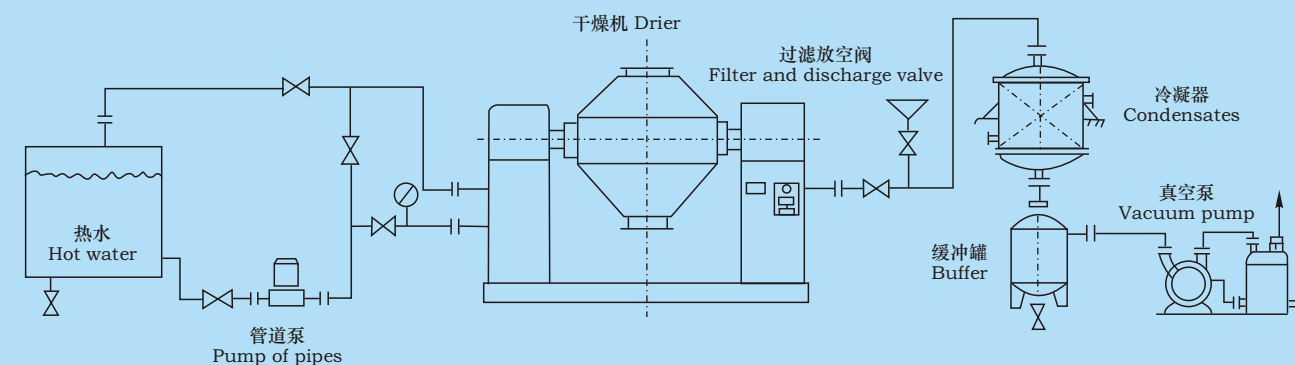


特点 Features

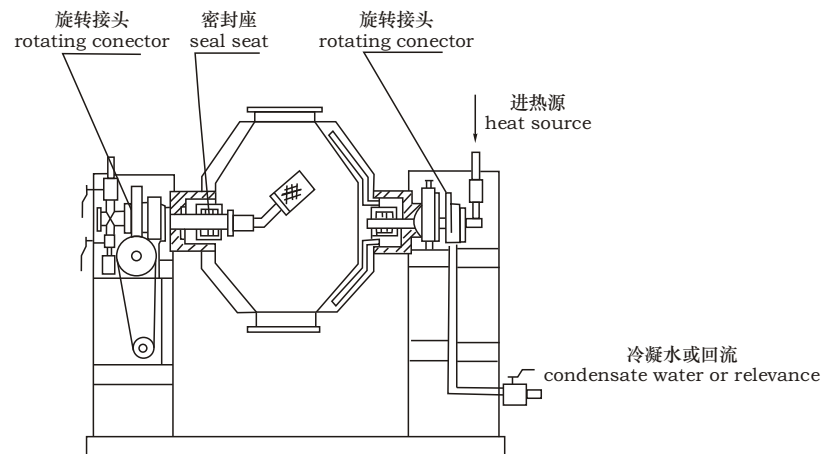
- 油加热时，采用自动恒温控制，可以干燥生化制品和矿物原料，温度可在20-160℃之间，温差在±2℃以内。
- 热效率高，比一般烘箱提高2倍以上。
- 间接加热，物料不会被污染，符合“GMP”要求。设备维修操作简便，易清洗。
- When oil is used to heat, use automatic constant temperature control. It can be used for drying biology products and mine. Its temperature of operation can be adjusted from 20-160℃ and within ±2℃.
- Compared with ordinal drier, its heat efficiency will be over 2 times;
- The heat is indirect. So the raw material can not be polluted. It is conformity with the requirement of GMP. It is easy in washing and maintenance.

安装示意图 Schematic of installation

推荐的工艺安置示范：溶剂回收工艺安置
Example of installation for recommended technology:
installation of solvent recover.



简易结构图 Sketch of Structure



概述 Descriptions

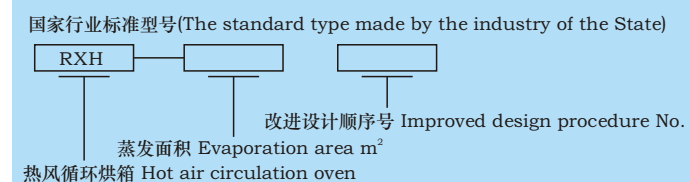
CT-C型系列热风循环烘箱配用低噪音耐高温轴流风机和自动控温系统，整个循环系统全封闭，使烘箱的热效率从传统的烘房3~7%提高到目前的35~45%，最高热效率可达50%。CT-C型热风循环烘箱的设计成功，使我国的热风循环烘箱达到了国内外先进水平。为我国节约了大量能源，提高了企业的经济效益。1990年由国家医药管理局发布了行业标准，统一型号为RXH。

CT-C series hot air circulation drying oven uses a low noise and high temperature proof axial flow blower and an automatic temperature control system. The whole circulation system is the fully enclosed to make that the heat efficiency of the drying oven increases from 3~7% of the traditional drying oven to 35~45% of the present one. The highest heat efficiency can reach 50%. The successful design of CT-Chot air circulation drying oven makes that the hot air circulation drying oven in our country catch the advanced level both at home and abroad. In order to save a large quantity of the energy in out country, in order to enhance the economic results of the enterprises, in 1990, the medicine management bureau of the State issued the industry standard and the uniform type is RXH.



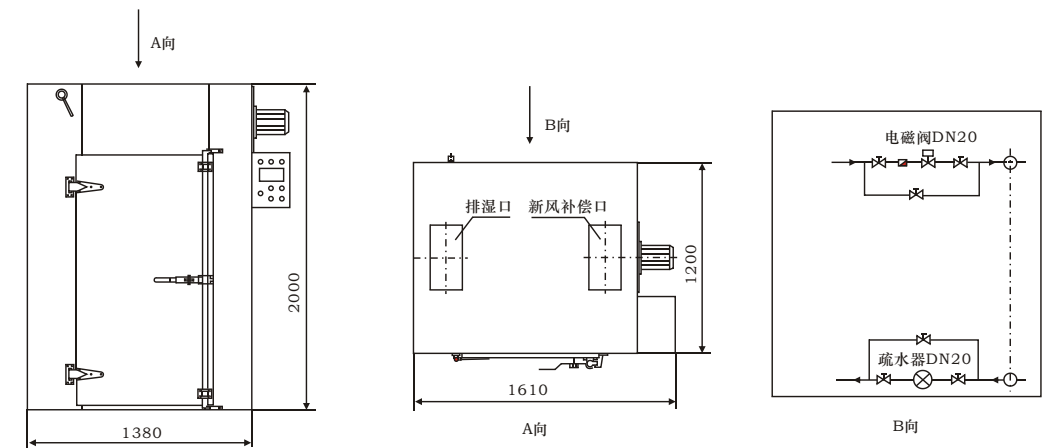
说明 Explanation

- 热源有：蒸汽、导热油、电加热管、远红外管等，供用户选择。
- 蒸汽加热：140℃~150℃。
- 用电、远红外温度：350℃。
- 备有自控系统和电脑控制系统供用户选择。
- 常用蒸汽压力0.2-0.8MPa。
- 配用电加热按I型计算15kW，实用5-8kW/h。
- 特殊要求在订货时注明。
- 非标烘箱按生产工艺参数进行特别设计制造。
- 使用温度大于140℃或小于60℃，要在订货时注明。
- 本厂出厂烘车，烘盘尺寸统一，可以互换。
- 烘盘尺寸：460×640×45mm。

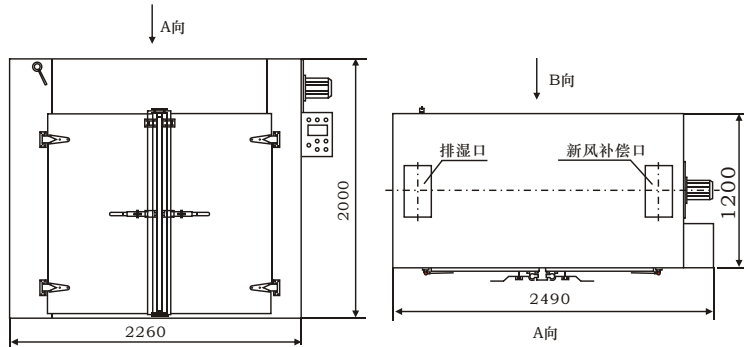


- The heat source can be steam, heat conductive oil, electricity or far infrared. Customers can select one of them in accordance with practical conditions.
- Temperature for steam: 140℃-150℃.
- Temperature for electricity or far infrared: 350℃.
- There are automatic and computer control system for customers to choose.
- The normal steam pressure: 0.2-0.8MPa.
- Power for electricity heat source will be 15KW calculated as Model I. Practical power to be used will be 5-8kw/h.
- If any special requirements, please indicate it when order.
- Parameters for non-standard ovens shall be discussed separately according to different conditions.
- If the operating temperature is higher than 14℃ or lower then 60℃, please indicate it when order.
- The drying trolleys and trays are of a standard size and can be exchanged with one another.
- The size of drying tray: 460×40×45mm.

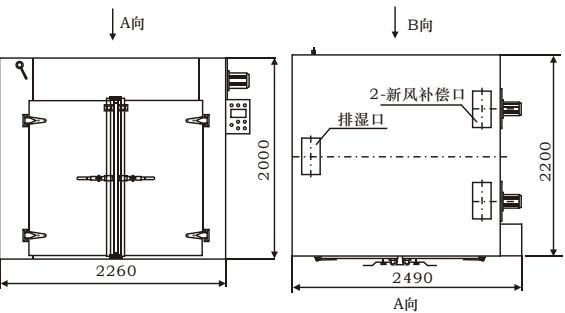
CT-C-O 型烘箱示意图 Sketch of model CT-C-O oven



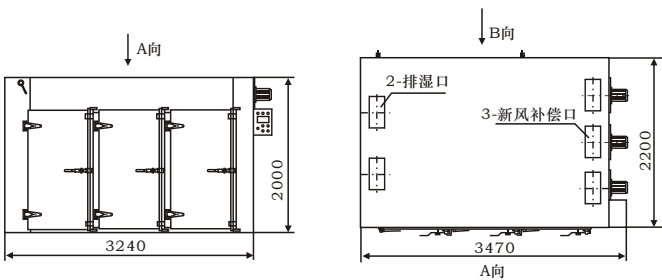
CT-C- I



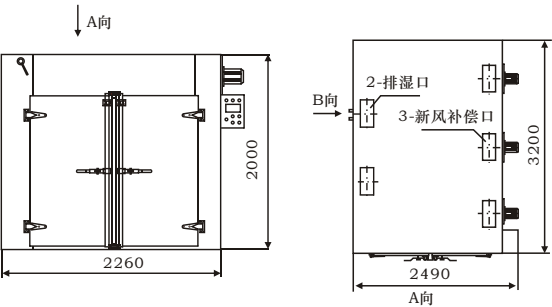
CT-C- II



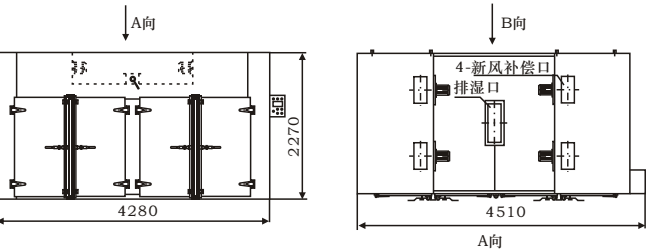
CT-C-III



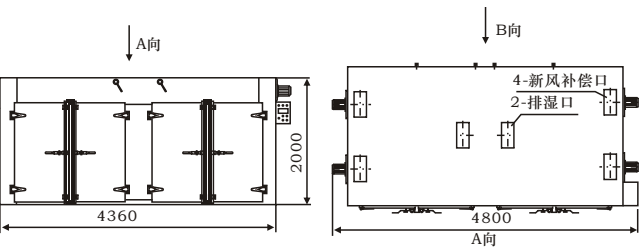
CT-C-III A



CT-C-IV



CT-C-IV A



应用 Applications

热风循环烘箱适用于制药、化工、食品、农副产品、水产品、轻工、重工等行业物料及产品的加热固化、干燥脱水。如原料药、中药、中药饮片、浸膏、粉剂、颗粒、冲剂、水丸、包装瓶、颜料、染料、脱水蔬菜、瓜果干、香肠、塑料树脂、电器元件、烘漆等。

It is suitable for heating and solidificating, drying and dehydrting of raw materials in pharmaceutical industry,chemical industry, foodstuff industry, agricultural and sideline products, aquatic products, light industry and heavy industry such as raw material medicine,Chinese traditional medicines, tablet of drink, immersed electuary, powder, granule, packing bottle, pigment, dyestuff,dehydrated vegetables, dried fruit and melons, banger, plastic resin, electric elements, drying varnish and so on.

特点 Features

- 大部分热风在箱内循环，热效率高，节约能源。
- 利用强制通风作用，箱内设有可调式分风板，物料干燥均匀。热源可采用蒸汽、导热油、电、远红外，选择广泛。
- 整机噪音小，运转平稳。温度自控，安装维修方便。
- 适用范围广，可干燥各种物料、是通用干燥设备。
- Most of hot air is circled inside the oven. The heat efficiency is high and the energy source can be saving.
- Using enhanced ventilation and adjustable air separating boards . It can make materials dried uniformly . The heat source can be steam, heat conductive oil, electricity or far infrared.
- The machine makes little noise and can be operated stably. The temperature can be controlled automatically and the installation and maintenance are all very convenient.
- With wide scope of application, it is suitable for drying varieties of materials. So it is a current type of drying equipment.

技术参数 Technical parameters

行业标准型号 Model of industrial standard	技术参数 Technical parameter 型号规格 Model specification	每次干燥量 Dry amount each time (kg)	配用功率 Equipped power (kW)	耗用蒸汽 Consumption of steam (kg/h)	散热面积 Area of radiation (m ²)	风量 Amount of air (m ³ /h)	上下温差 temperature difference between up and low(℃)	配用烘盘 Amount of drying tray to be equipped	外型尺寸 Overall dimensions 宽×深×高 W×D×H(mm)	配套烘车 Equipped drying trolley
RXH-5-C	CT-C-O	30	0.45	5	5	3450	0	16	1480×1100×1750	0
RXH-7-C	CT-C-IA	60	0.45	10	10	3450	±2	24	1400×1100×1750	1
RXH-14-C	CT-C-I	120	0.45	18	20	3450	±2	48	2300×1200×2000	2
RXH-27-C	CT-C-II	240	0.9	36	40	6900	±2	96	2300×2200×2000	4
RXH-27A-C	CT-C-IIA	240	0.9	36	40	6900	±2	96	4460×1200×2290	4
RXH-41-C	CT-C-III	360	1.35	54	80	10350	±2	144	2300×3200×2000	6
RXH-42A-C	CT-C-III	360	1.35	54	80	10350	±2	144	3430×2200×2000	6
RXH-54-C	CT-C-IV	480	1.8	72	100	13800	±2	192	4460×2200×2290	8
RXH-25-A	高效高温远红外灭菌烘箱 功率配套按温度要求进行		High effect and high temperature far infrared sterilization oven The power will be equipped in accordance with the requirements of temperature.						1200×1000×1690	1

注：材质有碳钢、铝合金、不锈钢；物料最终含水量<1%
Note:The material will be carbon steel, aluminum alloy or stainless. The final moisture of raw material(damp)will be less than 1%.



CT-C Series Hot-blast-air Circulating Drying Oven CT-C系列热风循环烘箱

干燥系列



干燥系列

DW Series Mesh-Belt Drier DW系列带式干燥机



可配套各种干燥设备使用,规格多种多样,使用材质有:铝合金、不锈钢、A3钢表面镀锌、钢铝复合、铜制、钢管铝烧片。另外,散热器可单独用于室内与库房的加热除湿,我厂可为用户设计制作。

The radiators can be used for various drying equipment,There are many specifications and kinds.The materials to be used are aluminium alloy stainless steel, A3 steel surface zinc covering,steel and aluminium compound, copper,steel pipe and aluminium winding sheet In addition,the radiators can be used for the heating and dehumidification indoors in the warehouses.Our factory



空气换热器(radiator)



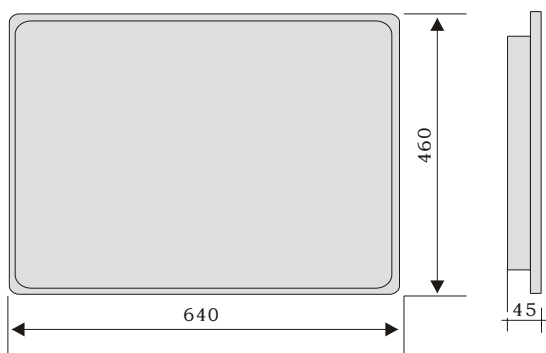
定型烘车 Shaping Baking Cart
材质:不锈钢、A3钢
Material:stainlesssteel,A3 steel



手工井字网盘
Manual ,ulti-square mesh plate



一次成型打孔盘
Once shaping punched plate



定型压制烘盘Shaping Pressed Baking-Plate
材质:不锈钢、防锈铝合金
Material:stainless steel,rustproof aluminium alloy



轴流风机 Shaft fan



一次成型压制盘
Once shaping pressed plate



概述 Descriptions

该机是穿流连续式干燥设备,用于透气性好的片状、条状、颗粒状物料的干燥,对于脱水蔬菜,中药饮片等含水率高,而温度不允许高的物料尤为合适;该系列干燥机具有干燥速度快、蒸发强度高、产品质量好的优点。对脱水滤饼状的膏状物料,需经造粒或制成棒状后亦可干燥。

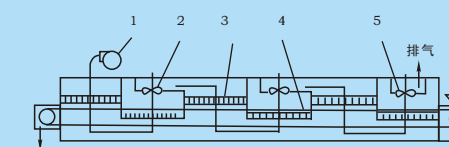
This machine is flowing and continuous type of drying equipment firstly made by our factory. The machine is used for drying the piece, tape and particle state materials with good ventilation, and especially for those materials ,such as de-watering vegetable ,herbal medicine of traditional Chinese medicine and others,for which the water content rate is high and the high temperature is not allowed. Its drying speed is high, the evaporation strength is high and the product quality is good. The dewatering filtering cake state paste materials, after particle making or bar making, can be dried also.

应用 Applications

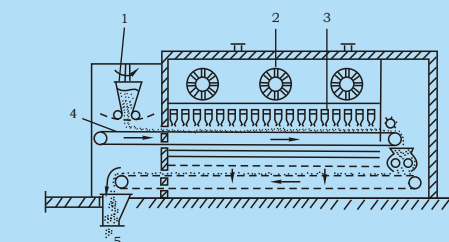
脱水蔬菜、颗粒饲料、味精、椰蓉、有机塑料、合成橡胶、丙烯纤维、药品、药材、小木制品、塑料制品、电子元器件老化、固化等。

De-watering vegetables, particle feed, gourmet powder, fine coconut mash, organic plastics, compound rubber, acral fibre, medicine product, medicine material, small wooden product, plastic product, aging and solidification for the electronic components and devices.

DWF(改进型improved type)



- 1、送气风机 2、循环风机 3、蒸汽加热器
- 4、输送带 5、排气风机 6、加料斗
- 1.air blower 4.transmitting belt
- 2.circulating air blower 5.exhaust blower
- 3.steam heater 6.material hopper



- 1、加料器 1.material feeder
- 2、风机 2.air blower
- 3、热空气喷嘴 3.steam sprayer
- 4、输送带 4.transmitting belt
- 5、干燥产品 5.dried product



原理 Principles

物料由加料器均匀地铺在网带上，网带一般采用12-60目不锈钢丝网，由传动装置拖动在干燥机内移动。干燥机由若干单位组成，每一单元热风独立循环，部分尾气由专门排湿风机排出，废气由调节阀控制，热气由下往上或由上往下穿过铺满物料的网带完成热量与质量传递的进程，带走物料水份。网带缓慢移动，运行速度可根据物料温度自由调节，干燥后的成品连续落入收料器中。上下循环单元根据用户需要可灵活配备，单元数量可根据需要选取。

The materials are evenly displayed on the mesh-belt by the material feeder. The mesh-belt uses generally 12-60 mesh stainless wire net and it is drawn and moved inside the drier by a transmitting device. The drier is composed of several units. For each unit, the hot air is circulated separately. Some exhausted gas is discharged with a special moisture elimination blower. The waste gas is controlled through an adjusting valve. The hot air passes through the mesh-bilt covered with the material from the top to the bottom or from the bottom to the top and this will complete the transmitting of heat and mass. This process will bring water away from the material. The meshbelt moving slowly, running speed can be easily adjusted according to the material temperature. The final products after the drying will fall into the material collector continuously. The upper and lower circulating units can be freely equipped according to the users requirements. The unit number can also be selected according to the requirements.

技术参数 Technical parameters

型号 Type	DW-1.2-8	DW-1.2-10	DW-1.6-8	DW-1.6-10	DW-2-8	DW-2-10
单元数 Unit number	4	5	4	5	4	5
带宽 Belt width (m)	1.2	1.2	1.6	1.6	2	2
干燥段长 Length of drying section (m)	8	10	8	10	8	10
铺料厚 Thickness of the material to be covered (mm)	10~80					
使用温度 Temperature (℃)	60~130					
蒸汽压 Steam pressure (Mpa)	0.2~0.8					
蒸汽耗量 Steam consumption (Kg/h)	120~300	150~375	150~375	170~740	180~500	225~600
干燥时间 Drying time (h)	0.2~1.2	0.25~1.5	0.2~1.2	0.25~1.5	0.2~1.2	0.25~1.5
干燥强度 Drying efficiency(Kg H ₂ O/h)	60~160	80~220	75~220	95~250	100~260	120~300
风机总功率 Total power of the blower (kw)	9.9	12.1	9.9	12.1	18.2	22.2
设备总功率 Total power of the equipment (kw)	11.4	13.6	11.4	13.6	19.7	23.7

概述 Descriptions

DWT脱水干燥机是在传统网带式干燥机基础上研究开发的专用型设备，具有较强的针对性，实用性，能源效率高，广泛用于各类地区性和季节性蔬菜、果品的脱水干燥，如：蒜片、南瓜、魔芋、白萝卜、山药、竹笋等，已拥有用户50多家，在线设备80多台套，是国内最富经验的蔬菜干燥设备生产企业，工厂科技人员长期跟踪服务于这些用户，深入用户进行调试研究，得到第一手实践资料并结合国外先进技术，不断改进完善设备，到目前为止，已开发了对第三代DWT系列蔬菜脱水干燥机，我们在为用户生产制作设备时，根据所需干燥产品的特性，用户工艺要求，结合十几年来积累的经验，为用户设计制作出最适用，品质最佳的蔬菜干燥设备。



DWT Series Dryer for Vegetable Dehydration os special equipment researched and developed on the basis of traditional net belt dryer, it has stronger pertinency, practicability and high efficiency of energy. It is wide used for all kinds of vegetables dehydration such as garlic, cushaw, giantarum, white turnip, yam, bamboo shoot, dtc at different region and season, our factory has more 50 of customers and more 80 of production line in operation. Our factory is an enterprise with the richest experience to manufacture dryer for vegetables dehydration. The technicians of our factory carry out attter sales service for customers all the year round and help customers to debug and produce. There fore they have got first-hand practical data and combined domestic and abroad advanced technology and improved and perfected the equipment. Till the third generation. DWT series dryer for vegetables dehydration has been developed. we are making advanced productive equipment for customers. according to the characteristics of raw materials too be dried and the process requirements of customers and combined the accumulated experience for more ten years, we have made the most suitable and the dryer for vegetables dehydration too supply customers. The series equipment had won CNP, its patent number is.

特点 Features

- 干燥面积、风压、风量、干燥温度、网带盍速度均可调节，以适应蔬菜的特性及品质要求。
- 可根据蔬菜的不同特点，采用不同的工艺水流程及添加配套必要的辅助设备。
- Its dry area, air pressure, air amount, dry temperature and speed of net belt can be adjusted in order to suitable foe different characterisics of vegetable and the requirement of quality.
- It can adapt different process and equip necessary auxiliary equipment in accordance with different characteristics of vegetable.

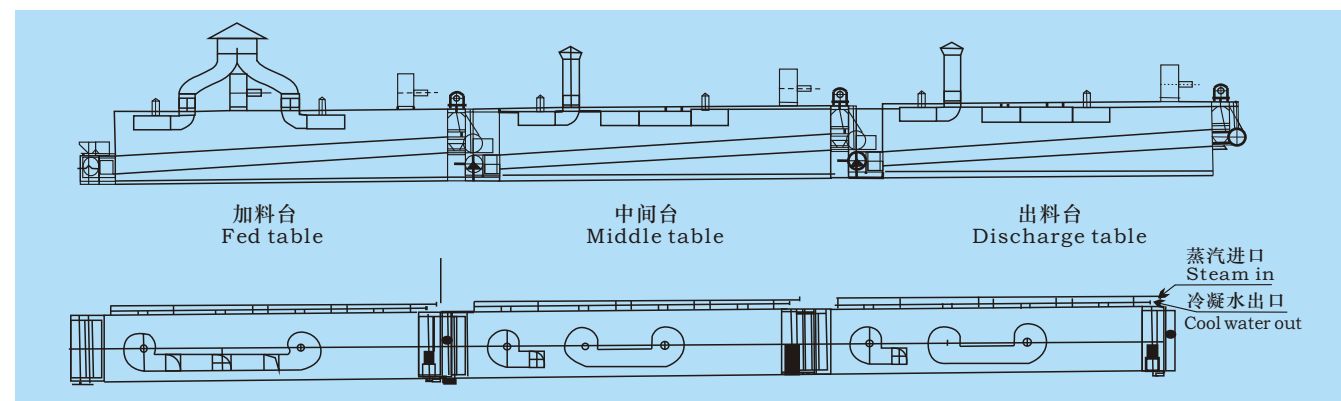
应用 Applications

- 能满足根、茎、叶类条状、块状、片状、大颗粒等蔬菜物料的干燥和大批量连续生产，同时能最大限度的保留产品的营养成分及颜色等。
- 干燥的典型物料有：蒜片、南瓜、胡萝卜、魔芋、山药、竹笋、辣根、洋葱、苹果等。
- It can meet to dry different vegetables such as, root, halm, leaf, tuberos rot, big granule and produce in batch. Meanwhile it can maintain content of nutrition, color, etc of vegetable in most extent.
- The type raw materials are garlic, cushaw, giantarum, while turnip, yam, bamboo shoot, capsicum, onion, apple, etc.

原理 Principles

- 蔬菜脱水干燥机分别有加料器、干燥床、热交换器及排湿风机等主要部件组成。
- 干燥机工作时，冷空气通过热交换器进行加热，采用科学合理循环方式，使热空气穿流通过床面上的被干燥物料进行均匀的热质交换，机体各单元内热气流在循环风机的作用下进行热风循环，最后排出低温高湿度的空气，平稳高效地完成整个干燥过程。
- The dryer for vegetable dehydration consists of feeder, drying bed, heat exchanger, damp exhaust fan, etc.
- When operation, air will be entered into dryer and heated through heat exchanger. Being adapted scientific and reasonable cycle method, the hot air will pas through raw materials to be dried on the bed and carry out uniform heat exchange. Under the action of cycle fan, the hot air stream inside each unit of the dryer will carry out hot air cycle. Final air with low temperature and high damp will be out. The whole drying process with stably and high effect will be finished.

流程图 Flow chart



技术参数 Technical parameters

型号Type	DWT1.6-I (加料台) fed table	DWT1.6-II (中间台) middle table	DWT1.6-III (出料台) discharge table	DWT2-I (加料台) fed table	DWT2-II (中间台) middle table	DWT2-III (出料台) discharge table
网带宽Belt width (mm)	1.6	1.6	1.6	2	2	2
干燥段长Drying section length (m)	10	10	8	10	10	8
铺料厚度 Thickness of the material to be covered(mm)	≤100	≤100	≤100	≤100	≤100	≤100
使用温度Temperature(℃)	50-150℃	50-150℃	50-150℃	50-150℃	50-150℃	50-150℃
换热面积Areae of heat conduction(m²)	525	398	262.5	656	497	327.5
蒸汽压力Steam pressure(MPa)	0.2-0.8	0.2-0.8	0.2-0.8	0.2-0.8	0.2-0.8	0.2-0.8
干燥时间Drying time(h)	0.2-1.2	0.2-1.2	0.2-1.2	0.2-1.2	0.2-1.2	0.2-1.2
装机功率 Power(kw)	15.75	12.75	9.55	20.75	16.75	12.55
外形尺寸Overall Dim.(m)	12×1.81×1.9	12×1.81×1.9	10×1.81×1.9	12×2.4×1.92	12×2.4×1.92	10×2.4×1.92

注：1、将上表中同一规格的网带干燥机加料台、中间台、出料台三台串联使用，保证蔬菜脱水干燥生产工艺要求工艺要求，显著提高产量，有效保证产品质量。
2、设备高度不包括风机、风管高度。
Note:1)When make fed table,middle table and discharge table with same specification mentioned above in series for use,it can form the process requirements of productions line for vegetables dehydration and raise the output obviously and guarantee the quality of products effectively.
2)The height of equipment does not include the height of fan and air duct.

概述 Descriptions

- DWC系列多层带式穿孔机流干燥机广泛应用于食品、农副产品、脱水蔬菜、中药材、水产品、土特产品、饲料及化工原料等行业之片状、条状、块状和颗粒状物料的脱水干燥作业。
- 该系列干燥机具有高效节能的特点，在穿流加热、分层进风、分段变温干燥、余热回收等方面具有国内领先水平，主要性能指标达到九十年代国际先进水平。
- 该系列干燥机摊放到被加工物料采用多层移动式不锈钢网带或振动板，热气流自下而上穿过网带及上的物料层，热交换均匀、充分，生产效率高，产品质量好，设用冷动层和旋转输料装置，出料温度低，利于及时包装。
- 采用带匀料器的升运装置，厚度均匀，且料层厚度可无级调节。
- 摊料面积由25-80平方米，七种大小不等的机型，可满足多种物料和不同生产规模的需要。



- DWC Series band through flow dryer area widdly used in fields of food, agriculture products and by-products, dehydrated vegetable, chinese herbal medicine, fish products, feed and chemical industry and are suitable for drying of flaked, striped, cube and granule materials.
- The drier has the charzcteristics of high efficiency and low energy consumption and possess the domestic advanced level in through flow drying, leading wind layer by large, drying by changing temperature stage by stage and collecting remainder heating. Main specifications have reached 90's advanced international lever.
- The belt conveyyor of this drier that loads drying material is five layers stainless steel net belt, Because the hot flow bellow to ablive bell layers, heating exvhange complotly and evenly, production efficiency is high and the product quality are very good, There are cooling layer and vibration device in outlet to decrease in outlet to decrease the final product temperature and make it convenient to package in time.
- These driers are equiipped with elevator with material even device to make the height of material identical, the height of material cna be adjusted by no-step.
- These driers have five styles, with belt area from 25-70m², it can meet the requirment of drying many kinds of materials and different product scale. Our factory cna provide technical serves for consultation, equipment selection, research & design and undeertaking engineering.



技术参数 Technical parameters

项目 Item \ 型号 Model	DWC-20	DWC-25	DWC-32	DWC-36	DWC-48	DWC-60	DWC-80
摊料面积 Loading area(m²)	20	25	32	36	48	60	80
蒸汽工作压力 Steam pressure(Mpa)	0.4~0.7						
耗汽量 Steam Consumption(Kg/h)	150-300	180-375	240-480	270-540	360-720	450-900	600-1200
干燥周期 Drying Period(Min)	20-200	60-600	100-1000 (无级) (Stepless)				
蒸发能力Evaporating Capacity(Kg · H ₂ O/h)	100-200	125-250	160-320	180-360	300-480	300-600	400-800
装机功率 Power(kw)	5.5	5.5	5.5	5.5	14.2	15.2	15.2
总重量(约) Weight(t)	8	8	8.5	10	11	13	15
外形尺寸Overall Dimensions L×W×H(mm)	8875×2408×3385	9875×2408×3385	11475×2408×3385	11475×2408×3385	14675×2408×3385	14675×2408×3385	15675×2408×3385



概述 Descriptions

XSG系列旋转闪蒸干燥机是我公司在引进吸收国外先进技术的基础上，自行开发成功的新型干燥设备。该机技术先进，设计合理，结构紧凑，适用范围广，生产能力大，产品质量好，效率高，节能，在一个设备内干燥、粉碎、筛分一次完成，消除环境污染，整机性能达到国际先进水平。闪蒸干燥机具有原来的轴承感应冷却（水冷却），设计用油泵联接送油润滑、冷却轴承，密封装置性能优异，在主轴设计上采用半环式，电机利用调速电机，传递平稳、噪声小，使用寿命是同类产品的10倍。

XSG series roating drier is developed by our company, and its techninology is based on advance techninology adored.The machine is including many superiority, such as reasonable design, compact stuction, widly utilization, grrat productive capacity,good quality, high effect and save energy, Drying, grinding and sieve are completed in one equipment in once time. It eliminate pollution and the techninology is reached international advance level.

原理 Principles

热空气切线进去干燥器底部，在搅拌器带动下形成强有力的旋转风场。膏状物料由螺旋加料器进入干燥器内，在高速旋转搅拌桨的强烈作用下，物料受撞击、摩擦及剪切力的作用下得到分散，块状物料迅速粉碎，与热空气充分接触、受热、干燥。脱水后的干物料随热气流上升，分级环将大颗粒截留，小颗粒从环中心排出干燥器外，由旋风分离器和除尘器回收，未干透或大块物料受离心力作用甩向器壁，重新落到底部被粉碎干燥。

The hot air enters into the bottom of the drier in tangent direction. Under the driving of the stirrer, a powerful rotating wind field is formed.The paste state materials enter into the drier through the screw charger. Under the powerful function of the stirring vanes at high-speed rotation, the materials are distributed under the function of strike, friction and shearing force. The block state mate-rials will soon be smashed and contact the hot air fully and the materials are heated and dried. The dried materials after the dewatering will g o up with the heatair flow. The step rings will stop and keep the big particles. Small particles will be discharged out of the drier from the ring center and will be restored by the whirl separator and dust remover. The not-fully-dried or big piece materials will be sent to the wall of the equipment by centrifugal force function and be smashed again after they fall down to the bottom.



闪蒸干燥机主塔



旋风除尘器



布袋除尘器



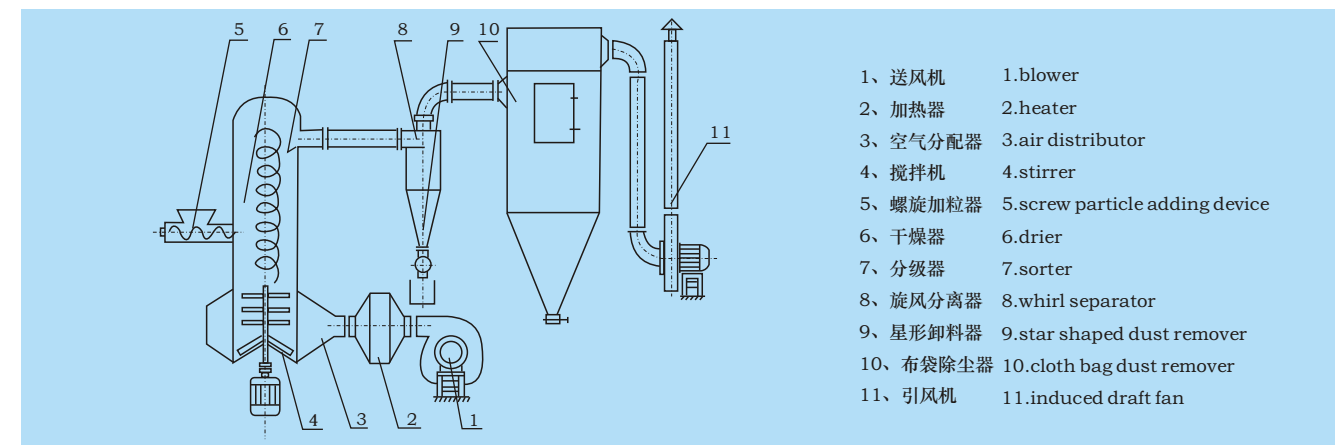
输送加料装置



特点 Features

- ◎ 旋流、流化、喷动及粉碎分级技术的有机结合。
- ◎ 设备紧凑，体积小，生产效率高，连续生产，实现了“小设备，大生产”。
- ◎ 干燥强度大，能耗低，热效率可达70%以上。
- ◎ 物料停留时间短，成品质量好，可用于热敏性物料干燥。
- ◎ 负压或微负压操作，密闭性好，效率高，消除环境污染。
- ◎ This machine combines the whirl technology with the luidity, ejection and smashing step technologies.
- ◎ The equipment is compact and small in size , high in production efficiency and continuous in the production. It has realized that “a small equipment can perform the large production” .
- ◎ The drying capacity for this machine is big but its energy consumption is low. Its heat efficiency can go up to more than 70%.
- ◎ The material stay time is very short. The quality of the final products is very good. The machine can be used for drying the heat sensitive materials.
- ◎ For the negative pressure or the micro-negative pressureoperation, the machine is goog for its tightness and high in the efficiency so as to eliminate the environmental pollution.

结构示意图 Schematic of structure



技术参数 Technical parameters

型号Type	筒体直径(mm) Barrel diameter	主机尺寸(mm) Main machine dimensions	主机功率(kw) Main machine power	处理风量(m³/h) Treatment wind capacity	蒸发水量(kg/h) Water evaporation quantity
XSG-2	200	250×2800	5-9	300-800	10-20
XSG-3	300	400×3300	8-15	600-1500	20-50
XSG-4	400	500×3500	10-17.5	1250-2500	25-70
XSG-5	500	600×4000	12-24	1500-4000	30-100
XSG-6	600	700×4200	20-29	2500-5000	40-200
XSG-8	800	900×4600	24-35	3000-8000	60-600
XSG-10	1000	1100×5000	40-62	5000-12500	100-1000
XSG-12	1200	1300×5200	50-89	10000-20000	150-1300
XSG-14	1400	1500×5400	60-105	14000-27000	200-1600
XSG-16	1600	1700×6000	70-135	18700-36000	250-2000

干燥实例 Dried samples

类别 Category		物料名称 Name of raw material	初水分 (%) Inial water content	终水分 (%) Final water contentl	使用设备型号 The use of device models
农药和农药中间体	农 药	草甘膦	12	0.02	XSG-6,XSG-8,XSG-12, XSG-14
		阿特拉津	40	1	XSG-6, XSG-8, XSG-12, XSG-14
		莠灭津	35	1	XSG-6, XSG-8
		扫螨净	20	1	XSG-6, XSG-8
		阿维菌素	80	15	XSG-12, XSG-14
		代森锰锌	30	1	XSG-10, XSG-12
		精喹禾灵	40(湿份为:酒精或甲苯)	1	XSG-4
		三环唑	28	1	XSG-4
		甲酸钙	12	1	XSG-6
		杀虫单	18	1	XSG-6, XSG-8, XSG-10
	巴丹	20	1	XSG-6, XSG-8,	
	氢氧化铜	35	1	XSG-8	
	中 间 体	间苯二甲腈	25	1	XSG-6, XSG-10
二羟基化合物		12	1	XSG-4	
咪唑烷		25~30	0. 2	XSG-10	
盐化合物单质类	无 机 类	活性碳酸钙	22	3	XSG-12
		纳米碳酸钙	40	1	XSG-10
		普通碳酸钙	20	2	XSG-12
		碳酸锌	65	1	XSG-10
		磷酸轻钙	40	1. 8	XSG-14
		碳酸氢钠	8	0.5	XSG-6
		氯化钙	12	2	XSG-8
		硫酸钙	12	2	XSG-8
		硫酸钡	20	0. 5	XSG-8
		焦亚硫酸钠	8	0. 5	XSG-6
		4A沸石	28	2	XSG-8, XSG-12, XSG-14
		硫酸钠	20	3	XSG-8
	有 机 盐	硬脂酸锌	40	0.5	XSG-8, XSG-10
		硬脂酸镁	40	5	XSG-8
		硬脂酸钙	40	2	XSG-8
		三盐基硫酸铅	25	0.5	XSG-8
		二盐基硫酸铅	25	0.5	XSG-8
	化合物和单质	碳化硅	26~30	1	XSG-8
		硅粉	30	1	XSG-10
		白炭黑	82	4-6	XSG-10
		炭黑	70	3	XSG-10
		活性炭	40	0. 5	XSG-8
		纳米氧化锌	55	4	XSG-4
		氧化铝		0.5	XSG-4
		氧化锆	80	1	XSG-8
		二氧化硅	25	0.2	XSG-4
	氧化铁红			XSG-8	
	其它	氢氧化铝	50-60	0.3	XSG-10
		氢氧化铝	85-87,	0.3	XSG-10
		高岭土	26-30	6	XSG-10
		氯醚树脂	40-45	0.3	XSG-14
颜料、染料和中间体	酞青蓝	40	0.5	XSG-10	
	活性黄	60	3	XSG-8	
	碱性嫩黄	40	0.3	XSG-8	
	吡啶酮	25-30	0.3	XSG-8	
	H酸	40-50	1	XSG-14	
	J酸	45	1	XSG-10	
	吐氏酸	15	1	XSG-6	

应用 Applications

这种类型的设备，适应的物料比较多，除基本型提及的物料外，还有：安眠酮、A.B.C中间体、A.B.S树脂、A.S.C、白炭黑、苯茶吡唑酮、茶粕、草酸催化剂、促进剂m、d.m、触媒、沉淀炭粉、对乙酰氨基苯磺酰氨、对氨基水杨酸、哆耳玛托、对苯二酸、二乙苯铵、二氧化钛、活性碳、 氟硅酸钠、氟石矿、副产硫酸、硅胶粉末、合成树脂、 磺酸钙、聚丙烯树脂、金霉素、焦硅酸钠、糠氯酸咖啡渣、口服葡萄糖、硫酸钠、硫化矿、磷矿粉、兰BB、 P.V.C、 熔融磷肥、四环素、三氧化铁、 碳酸钙、钛铁矿、铜矿、土豆粉、尾煤、硬脂酸盐、玉米蛋白、药品、药剂、氧化铁、酒渣等。

The equipment can meet different need of raw materials. Besides the mentioned raw materials in basic while carbon black, tea, catalyst of oxalic acid, promote agent m.d.m, catalyst, deposited carbon powder, N-acetyl-sulfanily chloride, p-aminosalicylic acid,p-phthalic acid, diethyl aniline, titanium dioxide, active carbon, sodium fluosilicate, ammonium sulphate, powder of silicon glue, synthesis resin, calcium sulphate, PP resin, aureomycin, sodium polysilicate, oral glucose,sodium sulphate, mine of sulphate, mine of phosphorus, BB blue, melting phosphorus fertilizer, teracycline, ferric oxide, calcium carbonate, titanium/ferric mine,copper mine, powder of white potato, tail coal, stearate, zein, medicine, medical agent, ferric oxide, less residueand so on.

原理 Principles

具有分散作用的风机，特别适合热敏性物料的气流干燥作业。高速飞旋的风机叶轮，能把湿的、甚至结块的物料解碎，直至分散，在分散过程中同时搅拌、混合，然后物料和热气流平行地流动。这种类型的设备，适应干燥滤饼结块的，但还属于表面水份的物料，含湿量≤40%，如果处理量大或者成品要求干至15%以下时，可采用二级气流干燥。当物料含湿量超过40%，但≤60%时，进料较困难，应采用混料器，通过混进干料的方法以降低进料水份，此时，干燥设备的总产量就有较大幅度的下降，这在经济上是不合算的。因此，用户应先用机械的方法（离心脱水或压滤）尽可能的降低进料水份，以确保干燥作业上的顺利进行。

It is equipped with fan that has the function of dispersing.So it is suitable for heat sensitive raw material specially.The impeller fo fan with high speed can crush the wettedand blocked raw material till dispersing. During the period of dispersing, it is stirred and mixed. Then the raw materialand air are flowing parallel. With the equipment, raw materials that are blocked filter cake but belong to the raw material having moisture on its surface. Its content ofmoisture should be less than 40%. If the amount to be treated is large or the moisture requirement of finfshedproducts should be less than 60%,two grades drying can be used. If the moisture of raw materials is between 40% and 60%, the feeder is difficult. It is necessary to adapt mixer. Through the method of mixing dry raw material intoit to decrease the moisture of raw material. At this time,the total output of drier will be decrease greatly. It is not suitable in economy. Therefore customer should removethe moisture using machinery method(centrifugal or press)so as to decrease its moisture as possible in order to guaranteethe drying operation can be carried out freely.

技术参数 Technical parameters

型号 Type	蒸发水份 Moisture to be evaporated(kg/h)	装机功率(kw) Power	占地面积(m²) Occupied area	高度(m) Height
QG 50	50	10	20	9
QG 100	100	20	32	11
QG 200*	200	31	40	11
QG 250	250	32	64	13
QG 500	500	54	96	13
QG 1000*	1000	135	120	15
QG 1500*	1500	175	200	16

注：有*号为二级干燥，装机功率、占地面积以蒸汽加热方式计算
note:marked with * has two grade for drying. Its power and area to be occupied can be calculated with the heat form of steam.



干燥实例 Dried samples

物料名称	进料湿含量	产品湿含量%	风进口温度/℃	废气排出温度/℃	产品粒数/目
阿斯匹林	2.5-5	0.2	80	60	
玫瑰精	35	3-4	180	60	40
草酸	4-5	0.5	120	40	20
醋酸钠	10	2-3	80-90		
味精	4-5	0.1	100		
药用小苏打	3	0.05	110		
焦亚硫酸钠	5-6	0.05	100	40	
葡萄糖	16-17	9.1	90	40	20目
小麦淀粉	40-41	12-14	240-260	50-55	
硼砂	4-5	0.5	70-90	50	
玉米淀粉	40	13	120-130	40	80-100目
NH ₄ HCO ₃	6	0.5以下	70-90	50	
硬脂酸盐类	40-50		105-200	70-80	200
氟硅酸钠	12	1以下	400	160	
苯甲酸	25	0.5	110	60	80
六六六	12-14	5-6	90	40-50	
吡唑酮	15	0.6	90-110	55-60	
磺化煤	60-70	20-40	250(进口)		
硫铵	1.8-2.5	0.02-0.08	110-115	70-90	
磺胺(SN)	20	1	110-120	50	1.5
对氨基粉	10	0.4	240	70	
淀粉	42.9	12.7	147.6	38.2	0.05
活性炭	205	4	455		
熔融磷肥	5	0.3	200		
茶粕	115	6.4	620		
促进剂M、D、M	20	0.5以下	150	50-80	100
扑热息痛	6-7	0.2	135-140	75-80	40-60
锯屑	77	50	220	60	粒状
安乃近	20	4-5	100	70	
聚甲醛	20	1	135	65	120-150
食用小苏打	3.9	0.2	180-240	50-70	0.005-0.001mm
微球催化剂	25	13	500-580	130-150	40-50
717离子交换树脂	4-7	0.1-0.4	120	70-80	1-200
触媒	18-25	5	110-130	60	18-20
次亚硫酸钠	5.8	0.2	150	108	
粉碎碳	13.6	5.3	330	100	

注：以上参数仅供参考

应用 Applications

适用于在高温下易分解，聚合和变质的热敏性物料的低温干燥；被广泛地采用在制药、化工、食品、电子等行业。

It is suitable for drying heat sensitive raw materials that can decompose and polymerize and metamorphose at high temperature. It is wide used in pharmaceutical, chemical, foodstuff and electronic industries.

原理 Principles

所谓真空干燥，就是将干燥物料处在真空条件下，进行加热干燥，如果利用真空泵进行抽气抽湿，则加快了干燥速率。

注：如采用冷凝器，物料中的溶剂可通过冷凝器加以回收；如采用SK系列水环 真空泵，可不用冷凝器，节省能源投资。

It is well known that vacuum drying is to put raw material to the state of vacuum for heating and drying. If use vacuum to take air and humidity out, the dry speed will be faster.

Note: if use condensate, the solvent in raw material can be recovered. If use SK series water ring vacuum pump sets, condensate can not be used and the investment could be saved.

特点 Features

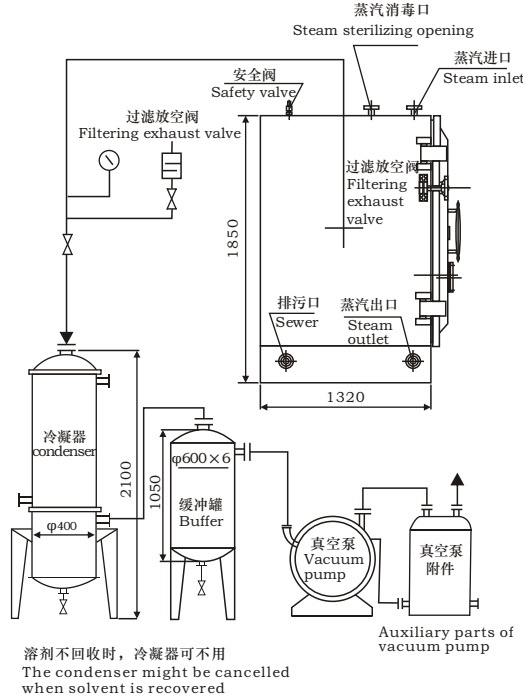
- 真空下物料溶液的沸点降低，使蒸发器的传热推动力增大，因此对一定的传热量可以节省蒸发器的传热面积。
- 蒸发操作的热源可采用低压蒸汽或废热蒸汽。
- 蒸发器热损失少。
- 在干燥前可进行消毒处理，干燥过程中无任何不纯物混入，符合GMP要求。
- 本干燥器属于静态真空干燥器，故干燥物料的形体不会损坏。

- Under the condition of vacuum, the boiling point of raw material will decrease and make the pushing force become greater. Therefore for a certain amount of heat radiation, the conducting area of evaporator can be saved;
- The heat source for operation of evaporation may be low pressure steam or surplus heat steam;
- The heat loss of evaporator is less;
- Before drying, the treatment of disinfection may be carried out. During the period of drying, there is no impurity material mixing. It is in conformity with the requirement of GMP;
- It belongs to static drier. So the shape of raw material to be dried can not be destroyed.



 简易结构图

Sketch of Structure



 技术参数

Technical parameters

规格 Specification	YZG-600	YZG-800	YZG-1000	YZG-1400	FZG-10	FZG-15
名称 Name						
箱内尺寸 Inside size of chamber (mm)	Φ600×976	Φ800×1247	Φ1000×1572	Φ1400×2054	1500×1060 ×1220	1500×1220 ×1400
箱外尺寸 Outer size of chamber (mm)	1135×810 ×1020	1700×1045 ×1335	1693×1190 ×150	2386×1657 ×1920	1720×1513 ×1924	2060×1513 ×1924
烘架 层数 Layers of baking shelf	4	4	6	8	5	8
层间距离 Layer of baking shelf (mm)	81	82	102	102	122	122
烘盘尺寸 Size of baking disk (mm)	310×600×45	520×410×45	460×640×45	460×640×45	460×640×45	460×640×45
烘盘数 Number of baking disk	4	8	12	32	20	32
烘架管内允压 Permitted pressure inside the pipe of baking shelf (Mpa)	≤0.784	≤0.784	≤0.784	≤0.784	≤0.784	≤0.784
箱内温度 Temperature inside chamber (°C)	≤150	≤150	≤150	≤150	≤150	≤150
箱内空载真空度 Vacuum in idle inside chamber (Mpa)	-0.09~0.096					
不用冷凝器时，真空泵型号、功率 If not use condensate, type and power of vacuum pump (kw)	SK-1.5 4KW	SK-3 5.5KW	SK-3 5.5KW	SK-6 11KW	SK-6 11KW	SK-6 11KW
干燥箱重量 Weight of drying chamber (kg)	250	600	800	1000	1400	2100

上述数据，仅供参考，如有特殊要求，本厂提供设计，咨询服务。
The above mentioned data is for reference only. If having special requirements, the factory can provide the service of consultation and design.

 应用

Applications

- 医药、食品、化工等行业进行以下物料干燥
- 适用于浆状、膏糊状、粉状物料。
 - 要求低温干燥的热敏性物料。
 - 易氧化、易爆、强刺激、剧毒物料。
 - 要求回收有机溶剂的物料。

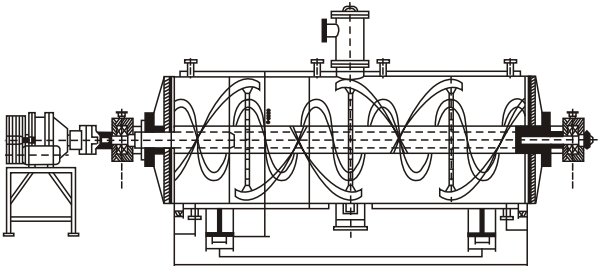
The following raw materials from pharmaceutical industry, food-stuff industry, chemical industry and so on can be dried.

- Suitable for pulpiness, paste-like mixture of powder raw materials.
- Thermal sensitive raw materials having the requirement to dry at lower temperature.
- Raw materials that are easy to oxidized or explode and have strong irritative or toxic.
- Raw materials that need to recover solvent.

 特点

Features

- 本机采用夹层与内搅拌同时加热方式，传热面大，热效率高。
- 本机设置搅拌，使物料在筒内形成连续循环状态，进一步提高了物料受热的均匀度。
- 本机设置搅拌，从而可顺利进行浆状、膏状、糊状物料干燥。
- Being adapted the heating way of jacket and inner stirring at the same time,its heat conducting area is large and its heat efficiency is high.
- Being installed stirring in the machine,it makes raw material in the cylinder form the state of continuous circle inside the cylinder, so the uniformity to be heated of raw material is raised greatly.
- Being installed stirring apparatus in the machine, pulpiness,pastelike mixture or powder raw materials can be dried easy.



 技术参数

Technical parameters

项目Item		机型 type						
名称Name	单位 unit	ZPD-500	ZPD-750	ZPD-1000	ZPD-1500	ZPD-2000	ZPD-3000	ZPD-5000
工作容积 Working volume	L	300	450	600	900	1200	1800	3000
内筒尺寸 over in the cylinder	Mm	Φ600×1500	Φ800×1500	Φ800×2000	Φ1000×2000	Φ1000×2600	Φ1200×2600	Φ1400×3400
搅拌转速Stirring revolution	rpm	7~6						
功率Power	kw	4	5.5	5.5	7.5	11	15	22
夹层设计压力 Design pressure of jacket	MPa	0.3						
筒内压力 Pressure in the cylinder	Mpa	-0.096~-0.15						

注：水份蒸发量与物料的特性及热风进、出口温度有关。随着产品不断更新，有关参数变更，恕不预先通知。
Notes:the evaporated amount of water its related to the characteristics of raw materials and the temperature of air in and air out. With renew products uncea-singly, the related parameters will be exchanged, it does not announce in advance, pardon !



概述 Descriptions

盘式连续干燥机是一种高效的传导型连续干燥设备，其独特的结构和工作原理决定了它具有热效率高、能耗低、占地面积小、配置简单、操作控制方便、操作环境好等特点。广泛适用于化工、医药、农药、食品、饲料、农副产品加工等行业的干燥作业。在各行业使用实践中深受好评。可分为常压、密闭、真空三大类型；1200、1500、2200、3000四种规格；A（碳钢）、B（接触物料部分不锈钢），C在B的基础上、增加蒸汽管路、主轴及支架为不锈钢，筒体和顶盖内衬不锈钢）三种材质，干燥面积4~180m²，共几百种型号的系列产品，并能提供与之相配套的辅助设备，可满足用户对各种物料进行干燥的需要。

PLG Series Continual Plate Dryer Descriptions Plate dryer is a kind of high effective conducting and continuous drying equipment. Its unique structure and operating principle determine that it has advantages of high heat efficiency, low energy consumption, small occupying area, simple configuration, easy operating and control as well as friendly operating environment etc. It can be widely used in drying process in the fields of chemical industry. Pharmaceuticals, agricultural chemicals, foodstuff, fodder, process of agricultural and sideline products etc, and is well received by various sectors in their practical usage. Now there are three big categories, named normal pressure, closed and vacuum styles; four sizes of 1200, 1500, 2200 and 3000; and three kinds of materials, namely A(carbon steel), B(stainless steel used for those all parts where materials are contacted) and C(on the basis of B to add stainless steel materials for vapor pipes, main shaft and support, and stainless steel linings for cylinder body and top cover). With a drying area being from 4 to 180 square metres, now we have hundreds of models of series products and various kinds of auxiliary devices available to meet requirements of drying materials for customers.

应用 Applications

干燥 热解 煅烧 冷却 反应 升华

(一) 有机化工产品

(二) 无机化工产品

(二) 医药、食品

(三) 饲料、肥料

Drying, heat decomposition, combustion, cooling, reaction, and sublimation

1. Organic chemicals

2. Mineral chemicals

3. Pharmaceutical and foodstuff

4. Feed and fertilizer



特点 Features

(一) 调控容易、适用性强

- 1.通过调整料层厚度、主轴转速、耙臂数量、耙叶型式和尺寸可使干燥过程达到最佳。
- 2.每层干燥盘皆可单独通入热介质或冷介质、对物料进行加热或冷却，物料温度控制准确、容易。
- 3.物料的停留时间可以精确调整。
- 4.物料流向单一、无返混现象、干燥均匀、质量稳定、不需再混合。

(二) 操作简单、容易

- 1.干燥器的开车、停车操作非常简单。
- 2.停止进料后，传送物料的耙叶能很快地排空干燥器内的物料。
- 3.通过特殊的大规格检视门的视镜，可以对设备内进行很仔细的清洗和观察。

(三) 能耗低

- 1.料层很薄，主轴转速低，物料传送系统需要的功率小、电耗少。
- 2.以传导热进行干燥，热效率高，能量消耗低。

(四) 操作环境好，可回收溶剂，粉尘排放符合要求

- 1.常压型：由于设备内气流速度低，而且设备内湿度分布上高下低，粉尘很难浮到设备顶部，所以顶部排湿口排出的尾气中几乎不含有粉尘。
- 2.密闭型：配备溶剂回收装置，可方便地回收在湿气体中的有机溶剂。溶剂回收装置简单，回收率高，对于易燃、易爆、有毒和易氧化的物料，可用氮气作为载湿气体进行闭路循环，使之安全操作。特别适用于易燃、易爆、有毒物料的干燥。
- 3.真空型：在真空状态下操作的盘式干燥器，特别适用于热敏性物料的干燥。

(五) 安装方便，占地面积小

- 1.干燥器整体出厂，整体运输，只需吊装就位，安装定位非常容易。
- 2.由于干燥盘层式布置、立式安装，即使干燥面积很大，占地面积也很小。

(1) Easy control, wide application

1. Regulate thickness of materials, rotating speed of main shaft, number of harrow's arm, style of and sizes harrows achieve best drying process.
2. Each layer of drying plate can be fed with hot or cold media individually to heat or cold materials and make temperature control accurate and easy.
3. Dwell time of materials can be accurately adjusted.
4. Single flowing direction of materials without return flowing and mixing, uniform drying and stable quality, no re-mixing is required.

(2) Easy and simple operation

1. Start stop of dryer is quite simple
2. After material feeding is stopped, they can be easily discharged out of the dryer by harrows.
3. Careful cleaning and observation can be carried inside the equipment through large-scale viewing window.

(3) Low energy consumption

1. Thin layer of materials, low speed of main shaft, small power and energy required for conveying system of materials.
2. Dry by conducting heat so it has high heating efficiency and low energy consumption.

(4) Good operation environment, solvent can be recovered and powder discharge meet the requirements of exhaust.

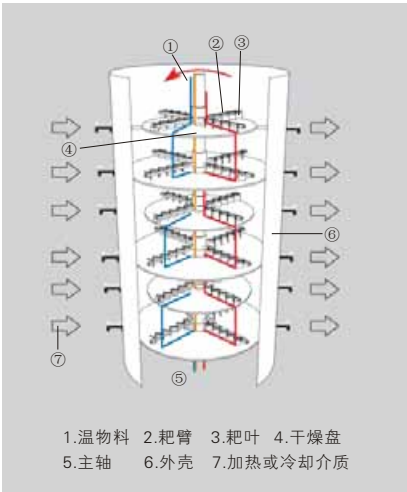
1. Normal pressure type: as low speed of air flow inside the equipment and moisture being high in upper part and low in lower part, dust powder couldn't float to the equipment, so there is almost no dust powder in tail gas discharged from the moist discharge port on the top.

2. Closed type: equipped with solvent recovery device that can recover organic solvent easily from moist-carrier gas. The solvent recovery device has simple structure and high recovery rate, and nitrogen can be used as moist-carrier gas in closed circulation for those subject to burning, explosion and oxidation, and poisonous materials in order for safe operation. Especially suitable for drying of flammable, explosive and poisonous materials.

3. Vacuum type: if the plate dryer is operating under vacuum state, it is particularly suitable for drying heat sensitive materials.

(5) Easy installation and small occupying area.

1. As the dryer is in a whole for delivery, it is quite easy to install and fix at site only by hoisting.
2. As drying plates being arranged by layers and installed vertically, it takes a small occupying area though drying area is large.



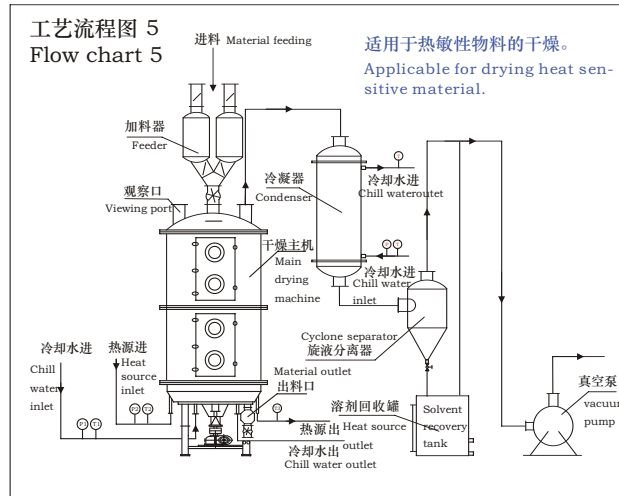
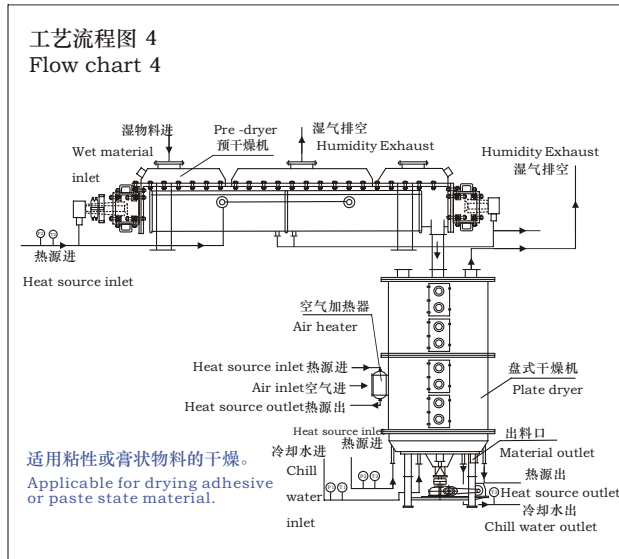
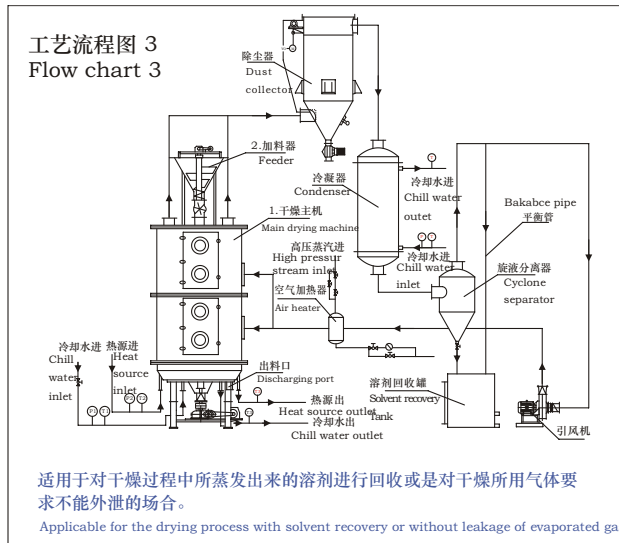
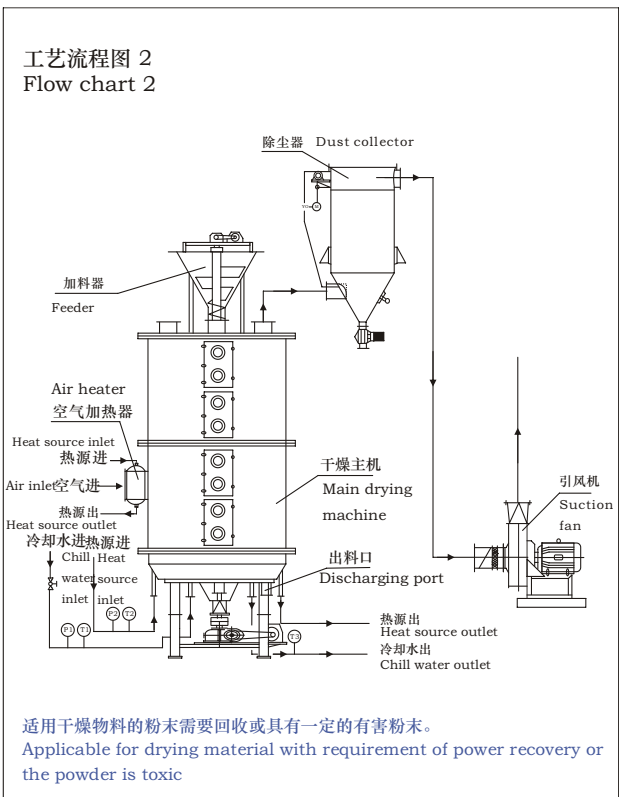
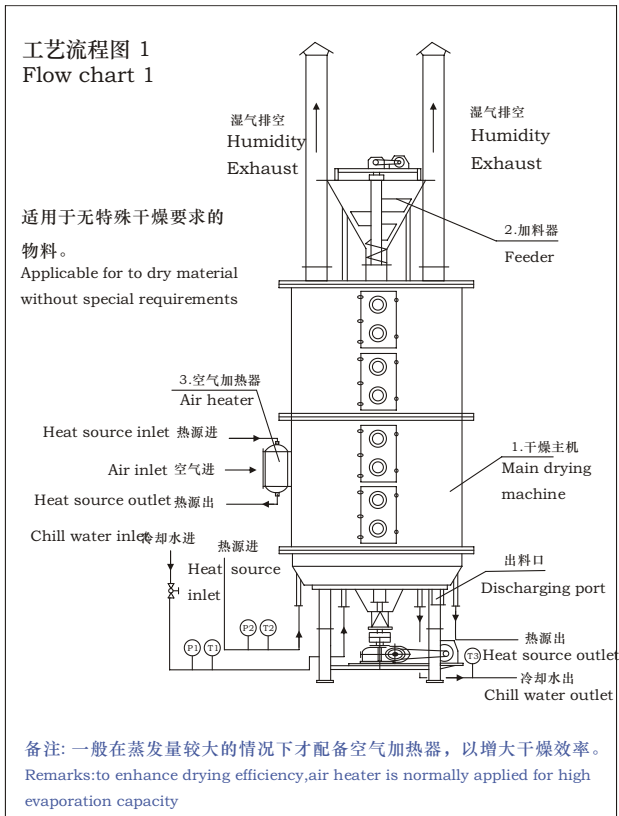


干燥系列

干燥系列 | **PLG Series Continual Plate Dryer**
PLG系列盘式连续干燥



 流程图 Flow chart



 技术特性 Features of technology

(一) 干燥盘

- 1.设计压力：一般为0.4MPa，最大可达1.6MPa。
- 2.最高使用压力：一般 ≤ 0.4 MPa，最高可达1.6MPa。
- 3.加热介质：蒸汽、热水、导热油、干燥盘温度100℃时使用热水加热，100℃~150℃时用 ≤ 0.4 MPa饱和水蒸汽或者过热蒸汽加热，150℃~320℃时用导热油加热，>320℃时可采用电、导热油、熔盐等方式加热。

（二）物料传送系统

1. 主轴转速：1~10转分，电磁或变频无极调速。
2. 耙臂：每层干燥盘上有2~8支固定在主轴上的耙臂。
3. 耙叶：绞接在耙臂上，能随盘面上下浮动保持接触，有多种形式。
4. 碾滚：对易结块和需要粉碎的物料，在适当位置配加碾滚，可以强化传热和干燥过程。

(三) 壳体

有常压、密闭、真空三种型式

- 1.常压型：圆筒或八棱柱型，有整体和对开两种结构。加热介质进出口主管道可以在壳体内，也可以在壳体外。
- 2.密闭型：圆筒型壳体，能承受5Kpa内压，加热介质进出口主管道可以在壳体内，也可以在壳体外。
- 3.真空型：圆筒型壳体，设计压力为0.1Mpa，加热介质进出口主管道在壳体内。

(四) 空气加热器

一般在蒸发量较大的情况下使用，以增强干燥效率。



1.Drying plate

- (1). Designing pressure: general is 0.4MPa, Max. can reach 1.6 Mpa.
- (2). Work pressure: general is less than 0.4Mpa, and Max. can reach 1.6 Mpa.
- (3). Heating medium: steam, hot water, oil. When the drying plates' temperature is 100℃, hot water can be used; when 100℃~150℃, it will be saturated water steam ≤ 0.4 Mpa or steam-gas, and when 150℃~320℃, it will be oil; when $> 320^{\circ}\text{C}$ it will be heated by electric, oil of fused salt.

2. Material transmission system

- (1).headstock revolution:1~10 rpm, electromagnetism of transducer timing.
- (2).harrow arm: There are 2 to 8 pieces arm that be fixed on the headstock on the every layers.
- (3). Harrow's blade: Surrounding the harrow's blade, float together with the surface of the plate to keep contact. There're various of types.
- (4). Roller: for the products easily agglomerate, or with the requirements of grinding, the heat transfer and drying process might be reinforced by placing roller(s) at the appropriate place(s).

3. Shell There're three types for option: normal pressure, sealed and vacuum

- (1). Normal pressure:
- (2). Sealed: Cylindrical shell, could bear the interior pressure of 5KPa, the main ducts of the inlet and outlet of heating media might be inside of the shell or outside.
- (3). Vacuum: Cylindrical shell, could bear the exterior pressure of 0.1MPa. The main ducts of inlet and outlet is inside of the shell.

4. Air heater:

Normal for the application of big evaporation capacity to increase drying efficiency.

原理 Principle

湿物料自加料器连续地加到干燥器上部第一层干燥盘上，带有耙叶的耙臂作回转运动，使耙臂连续地翻抄物料。物料沿指数螺旋线流过干燥盘表面，在小干燥盘上的物料被移送到外缘，在大干盘上的物料向里移动并从中间落料口落入下一层小干燥盘中。大小干燥盘上下交替排列，物料得以连续地流过整个干燥器。中空干燥盘内通入加热介质，加热介质形式有饱和蒸汽、热水和导热油，加热介质由干燥盘的一端进入，从另一端导出。已干物料从最后一层干燥盘落到壳体的底层，最后被耙叶移送到出料口排出。湿汽从物料逸出，由设在顶盖上的排湿口排出，真空型盘式干燥器的湿汽由设在顶盖上的真空泵口抽出。从底层排出的干物料可直接包装。通过配加翅片加热器、溶剂回收冷凝器、袋式除尘器、干料返混机构、引风机等辅机，可提高其干燥的生产能力，干燥膏糊状和热敏性物料，可方便地回收溶剂，并能进行热解和反应操作。

Wet materials are fed continuously to the first dryinglayer on the top of the dryer. They will be turned and stirred by rakes when the rake arm rotates and drop down to the outer edge of the large drying plate along the exponential helical line. On the small drying plate they will be moved to its outer edge and drop down to the outer edge of the large drying plate underneath, and will be moved inward and drop down from its central hole to the small drying plate on the next layer. Both small and large drying plates are arranged alternately so as materials can go through the whole dryer continuously. The heating media, Which could be informs of saturated steam, hot water or heat conducting oil will be led into hollow drying plates from one end to the other end of the dryer. The dried materials will drop from the last layer of the drying plate to the bottom layer of the shell body, and will be moved by rakes to the dischargeport. The moisture escapes from materials and will be removed from the moist discharge port on the top cover, or sucked out by the vacuum pump on the top cover for vacuum-type plate dryer. The dried materials discharged from the bottom layer can be packed directly. The drying capability can be raised up if equipped with supplementary devices such as finned heater, condenser for solvent retrieval, bag dust remover, return and mix mechanism for dried materials and drawing fan etc. Solvent in those dried paste and heat sensitive materials can be

技术参数 Technical parameters

规格spec	外径mm diamter	高度mm high	干燥面积m ² area of dry	功率kw power	规格spec	外径mm diamter	高度mm high	干燥面积m ² area of dry	功率Kw power
1200/4	1850	2608	3.3	1.1	2200/18	2900	5782	55.4	5.5
1200/6		3028	4.9		2200/20		6202	61.6	
1200/8		3448	6.6	1.5	2200/22		6622	67.7	7.5
1200/10		3868	8.2		2200/24		7042	73.9	
1200/12		4288	9.9		2200/26		7462	80.0	
1500/6	2100	3022	8.0	2.2	3000/8	3800	4050	48	11
1500/8		3442	10.7		3000/10		4650	60	
1500/10		3862	13.4		3000/12		5250	72	
1500/12		4282	16.1	3.0	3000/14		5850	84	
1500/14		4702	18.8		3000/16		6450	96	
1500/16		5122	21.5		3000/18		7050	108	15
2200/6	2900	3262	18.5	4.0	3000/20		7650	120	
2200/8		3682	24.6		3000/22		8250	132	
2200/10		4102	30.8		3000/24		8850	144	
2200/12		4522	36.9	5.5	3000/26		9450	156	18.5
2200/14		4942	43.1		3000/28		10050	168	
2200/16		5362	49.3		3000/30		10650	180	

应用 Applications

- 机制螺杆挤压颗粒、摇摆颗粒、湿法高速混合制粒颗粒。
- 医药、食品、饲料、化工等领域湿颗粒和粉状物料干燥。
- 大颗粒，小块状，粘性块粒状物料。
- 魔芋等干燥时体积变化的物料。

- Use screw to extrude and vibrate granule and granulate granule using the methods of humidity, high speed and mixing;
- Suitable for drying humidity block or powder raw material in the fields such as pharmaceutical , foodstuff, feedstuff, chemical industries and so on;
- The raw material is large in granule and small in bolck and having adhesive property;
- Suitable for raw materials, its volume will be changed when dry, such as giantarum, polyacrylamide, etc.



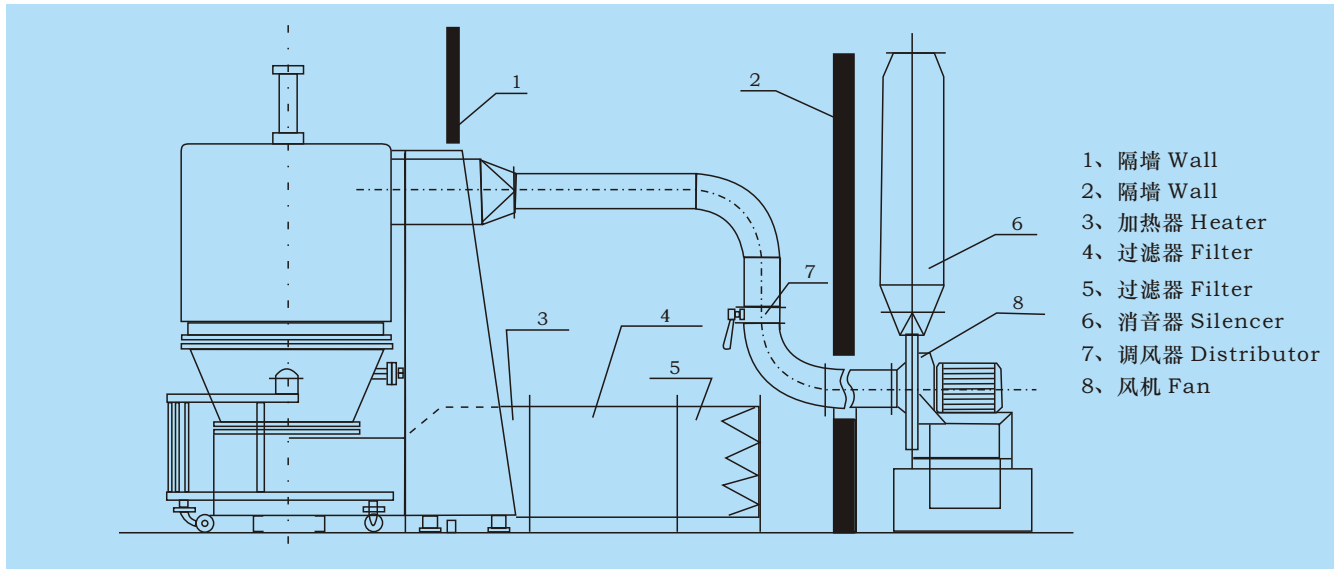
特点 Features

- 流化床为圆形结构，避免死角。
- 料斗设置搅拌，避免潮湿物料团聚及干燥时形成沟流。
- 采用翻倾卸料，方便迅速彻底，亦可按要求设计自动进出料系统。
- 密闭负压操作，气体经过过滤。操作简便，清洗方便，是符合“GMP”要求的理想设备。
- 干燥速度快，温度均匀，每批干燥时间一般在20-30分钟。



- The structure of fluidization bed is of round so as to avoid dead corner.
- Inside the hopper there is a stirring device in order to avoid agglomeration of raw material and forming canal of flow.
- The granule is discharged through the method of turning over. It is very convenient and full. The discharged system can be designed as request too.
- It is operated at he conditions of negative pressure and seal. The air is filtered. Therefore it is simple in operation and convenient for cleaning. It is an ideal equipment that is in conformity with the requirements of GMP.
- The drying speed is fast and the temperature is uniform. The drying time is 20-30 minutes normally.

安装结构图 Schematic of installation



原理 Principles

空气经加热净化后，由引风机从下部导入，穿过料斗的孔网板。在工作室内，经搅拌和负压作用形成流态化，水份快速蒸发后随着排气带走，物料快速干燥。

Purified and heated air is introduced from the bottom through suction fan and passed through the screen plate of raw material. In the work chamber, the state of fluidization is formed through stirring and negative pressure. The moisture is evaporated and removed rapidly and the raw material is dried quickly.



技术参数 Technical parameters

项目 Item		单位 Unit	型号 Type							
投料 capacity		Kg	60	100	120	150	200	300	500	1000
风机 fan	风量 velocity	m³/h	2361	3488	4000	4901	6032	7800	10800	15000
	风压 air pressure	mmH ₂ O	594	533	533	679	787	950	950	1200
	功率 power	kw	7.5	11	15	18.5	22	30	45	75
搅拌功率 stirring power		kw	0.55	0.55	0.75	0.75	1.1	1.5	1.5	2.2
搅拌转速 stirring speed		rpm	11							
蒸汽耗量 consume of steam		kg/h	141	170	220	240	282	366	451	800
操作时间 time of operation		min	15-30(视物料情况而定 depends on material)							
主机高度 height of main machine		mm	2700	2900	2900	2900	3100	3600	3850	5800

应用 Applications

本机主要适用于医药、食品、化工等行业进行粉末或颗粒物料的干燥。

The machine is main used for drying powder or granules from pharmaceutical, foodstuff, chemical and so on industries.

特点 Features

- 流态化干燥、热质传递快；
- 在封闭负压下操作，无粉尘飞扬；
- 采用抗静电过滤材料，操作安全；
- 设备无死角，清洗彻底，无交叉污染；
- 满足GMP规范要求。
- Fluid bed to achieve fast heat transmission of medium.
- Seal negative pressure operation, there is no dust.
- Because of using anti-static material as filter, it is safe in operation;
- The equipment has no dead corner so it is easy to clean fully and there is no cross pollution;
- It is in conformity with the requirements of GMP.



技术参数 Technical parameters

机 型 Spec			3	5	30	60	120	200	300	500	1000
项 目 Item		单位 unit									
原料容器 Container of raw material	直径 dim.	mm	300	400	700	1000	1200	1400	1600	1800	2200
	容积 volume	L	12	22	100	220	420	670	1000	1500	2500
生产能力 Production capacity	最小Min	kg/batch	1.5	4	15	30	80	100	150	250	500
	最大Max	kg/batch	4	6	36	72	140	240	360	600	1100
蒸汽耗量 Consume of steam		kg/batch	12	23	70	140	211	282	366	465	800
压缩空气量 Amount of compressed air		m³/min	0.3	0.3	0.3	0.6	0.6	0.9	0.9	0.9	1.5
风机功率 Power of fan		kw	2.2	4	5.5	11	18.5	22	30	45	75
温度 Temperature		°c	常温~120℃自动调节.Adjustable from ambient to 120								
物料收率 Collection rate		%	>99								
操作时间 Time of operation		min	15~30(视具体物料而定 Depends on material)								
终湿含量 Content of final product		%	~0.2(视具体物料而定 Depends on material)								
噪音 Noise		dB	≤75								
主机高度 Height of main machine		mm	2100	2300	2500	3000	3300	3800	4000	4800	6200

概述 Descriptions

沸腾干燥器，又称流化床，经过30年的使用、改进，目前在制药，化工，食品，粮食加工方面，越来越体现了它的重要作用。它是由空气过滤器，沸腾床主机、旋风分离器，布袋除尘器，高压离心通风机、操作台组成。由于干燥物料的性质不同，配套除尘设备时，可按需要而进行，可同时选择旋风分离器，布袋除尘器。也可选择其中的一种。一般来说，比重较大的物料只需选择旋风分离器。比重较轻的物料需配套布袋除尘器，并备有气力送料装置选择。本设备有连续型与间隙式两种操作方式。

Fluidizing dryer is also called fluid bed. Through operation and improvement over 30 years, it has play an active part in the fields of pharmaceutical, chemical, foodstuff, gain and so on industries. It consists of air filter, fluid bed, cyclone separator, dust collector, high-speed centrifugal fan, control cabinet and so on. Because of the difference of property from raw material, it is necessary to equip dust remover in accordance with practical needs. It may select cyclone separator and dust collector both or one of them. In general, cyclone separator can be selected if the raw material is larger and the dust collector may be selected if the raw material is light. Moreover, there is pneumatic feeding device for your selection. There are two kinds of operation for this machine, continuous and intermittent

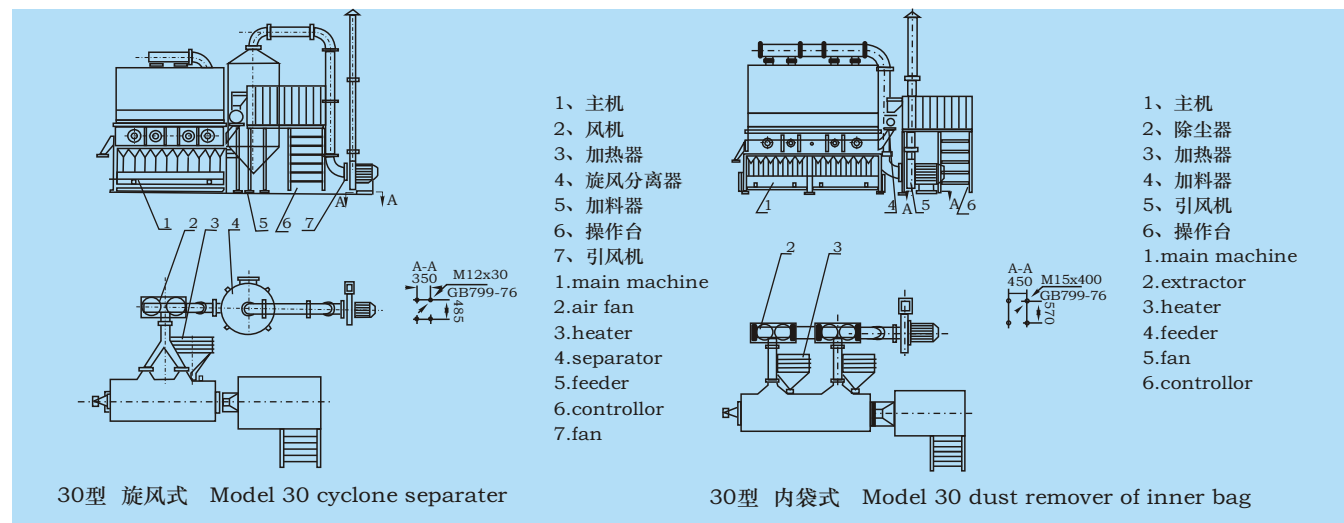


应用 Applications

医药药品、化工原料、食品、粮食加工、饲料的干燥作业。如：原料药、压片颗粒、中药冲剂、保健食品、饮料冲剂、玉米胚芽、饲料、塑料树脂、柠檬酸和其它粉粒状物料的干燥除湿。适用物料粒径一般为0.1~6mm，最佳粒径为0.5~3mm。

Drying process of medicines, chemical raw material, foodstuff, grain processing, feed and so on. For example, raw medicine, tablet, Chinese medicine, foodstuff of health protection, drinks, feed, resin, citric acid and other powders. The suitable diameter of raw material is normally 0.1-0.6mm. The most applicable diameter of raw material will be 0.5-3mm.

安装结构图 Schematic of installation



原理 Principles

洁净的热风经阀板分配进入床体内，从加料器进入的湿物料被热风形成沸腾状态。由于热风与物料广泛接触，增加了传热传质的过程，因此在较短时间内就可干燥。如用连续型，物料从床体的一头进入，经过几十秒至几分钟沸腾干燥，自动从床体另一头流出。本设备一般进行负压操作。

The clean and hot air enters into fluid bed through distributor of valve plate. The wet material is fed from the feeder forms the fluid state by hot air. Because of the wide contact between hot air and raw materials, the time of drying is short. If use continuous type, the material enters from the front of bed, fluidized in bed for several minutes, and float another side of bed. The machine' works in negative pressure.

技术参数 Technical parameters

项目 item 型号 spec	干燥能力 drying capacity kg/h	风机功率 power of fan kw	风压 air pressure Pa	风量 air amount m³/H	进风温度 Tem. of inlet air ℃	最大能耗 Max consume J	进料形式 From of feeding
XF10	10-15	7.5	5.5×10^3	1500	60-200	2.0×10^8	1.星形加料工; shape valve 2.气力自行输送。 pneumatic conveying
XF20	20-25	11	5.8×10^3	2000	60-200	2.6×10^8	
XF30	30-40	15	7.1×10^3	3850	60-200	5.2×10^8	
XF50	50-80	30	8.5×10^3	7000	60-200	1.04×10^9	

注：干燥能力以干燥酸梅晶初含水份20%，终含水份5%，进风温度130℃时测定，其它物料的干燥能力按具体干燥情况为准，选型时注意。
A型：配旋风分离器；B型：内袋式；C型：既带旋风，又配布袋除尘器。
Notice:The drying capacity is measured if the primary moisture of crystal of plum is 20% and its final moisture is 5% and the temperature of air inlet is 130℃. The drying capacity of other raw materials will be based on the practical drying condition. When choose models, please note that: Model A should be matched with cyclone separator and Model B with inside bag dust collector and Model C with cyclone separator and bag dust remover.

安装说明 Explanation to installation

- 各设备需摆放平整，用底脚螺丝固定，各部件密封良好。
- 风机可摆放于室外或自建消音室内。平面布置可根据具体情况酌情调整。
- All equipment should be horizontal and fixed with foundation screw on the ground. All parts should be sealed well.
- The fan may be installed outdoor or in the special noise free room. The plan can be adjusted slightly in accordance with the real conditions.



实际使用中的非标设计大型沸腾床



实际使用中的ZLG系列振动流化床干燥机

特点 Features

- 振动源是采用振动电机驱动，运转平稳，维修方便，噪音低、寿命长。
 - 流态化匀称，无死空隙和吹穿现象，可以获得均匀的干燥、冷却制品。
 - 可调性好，适应面宽。料层厚度和在机内移动速度以及全振幅变更均可实现无级调节。
 - 对物料表面损伤小，可用于易碎物料的干燥；物料颗粒不规则时亦不影响工作效果。
 - 采用全封闭式的结构，有效地防止了物料与空气间交叉感染，作业环境清洁。
 - 机械效率与热效率高，节能效果好，比一般干燥装置可节能30-60%。
- Adopt vibration motor, it is smooth in running and convenient in maintenance. The noise is low and the service life is long.
- The state of fluidization is uniform and no dead gaps or broken phenomenon so to have dry ,cool product.
- It is good in adjustment and wide in the field of application. The thickness of raw material and the speed of raw material to be moved inside the machine and the change of vibration range can be steeples.

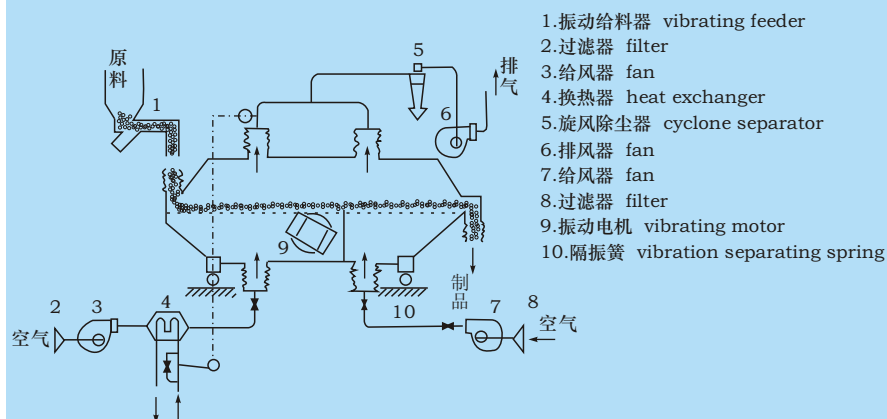
○ The damage the surface of raw material is small. So it can be used for raw materials that are easily to be broken. If the granule is not normal, the effect of process can not be effected.

○ The structure is fully seal, it is effective to prevent from cross pollution of raw materials and the working environment is clean.

○ The mechanical and heat are high and its effective of energy saving. Compared to ordinal dryer, 30-60% of energy is saved.

振动流化床配套系统图

Complete System Chart of Vibrating Fluidized Bed



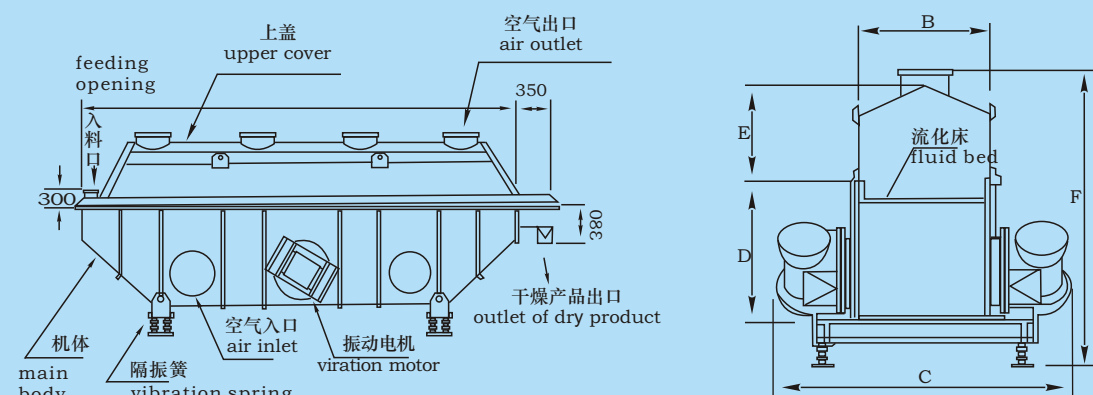
应用 Applications

适用于化工、制药、食品、脱水蔬菜、粮食、矿产等行业的粉状、颗粒状物料的干燥、冷却等作业，如：柠檬酸、味精、硼砂、硫酸铵、复合肥、萝卜丝、豆粕、酒糟、种子、矿渣、砂糖等。

It is suitable for the operations of drying, cooling for powder or granule raw materials. They may be citric acid, monosodium glutamate, borax, ammonium sulphate, com-pound fertilizer, piece of radish, bean, lees, seed, mine residue and sugar, in chemical, pharmaceutical, foodstuff, grain, mine and so on industries.

振动流化床干燥机简图

Sketch Chart of Vibrating Fluidized Bed



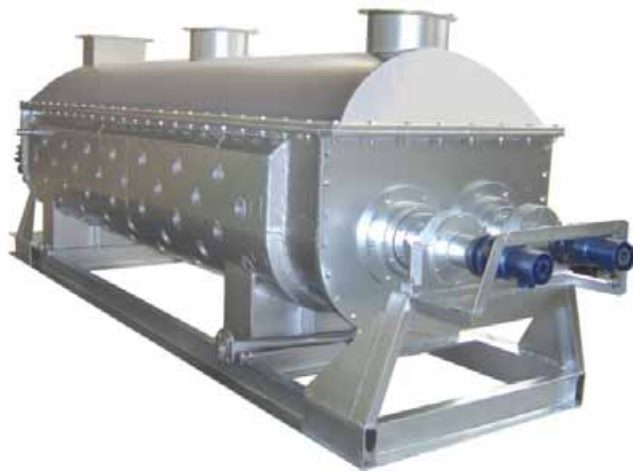
技术参数 Technical parameters

机型 model	流化床面积 area fluid-bed	进风温度 temperature of inlet air	出风温度 temperature of outlet air	蒸发水份能力 capacity to vapor moisture	振动电机	
					型号 model	功率 power kw
ZLG3×0.3	0.9	70-140	40-70	20-35	ZDS31-6	0.8×2
ZLG4.5×0.30	1.35	70-140	40-70	35-50	ZDS31-6	0.8×2
ZLG4.5×0.45	2.025	70-140	40-70	50-70	ZDS32-6	1.1×2
ZLG4.5×0.60	2.7	70-140	40-70	70-90	ZDS32-6	1.1×2
ZLG6×0.45	2.7	70-140	40-70	80-100	ZDS41-6	1.5×2
ZLG6×0.60	3.6	70-140	40-70	100-130	ZDS41-6	1.5×2
ZLG6×0.75	4.5	70-140	40-70	120-140	ZDS42-6	2.2×2
ZLG6×0.9	5.4	70-140	40-70	140-170	ZDS42-6	2.2×2
ZLG7.5×6.0	4.5	70-140	40-70	130-150	ZDS42-6	2.2×2
ZLG7.5×0.75	5.625	70-140	40-70	150-180	ZDS51-6	3.0×2
ZLG7.5×0.9	6.75	70-140	40-70	160-210	ZDS51-6	3.0×2
ZLG7.5×1.2	9	70-140	40-70	200-260	ZDS51-6	3.7×2



干燥参数表 Technical parameters

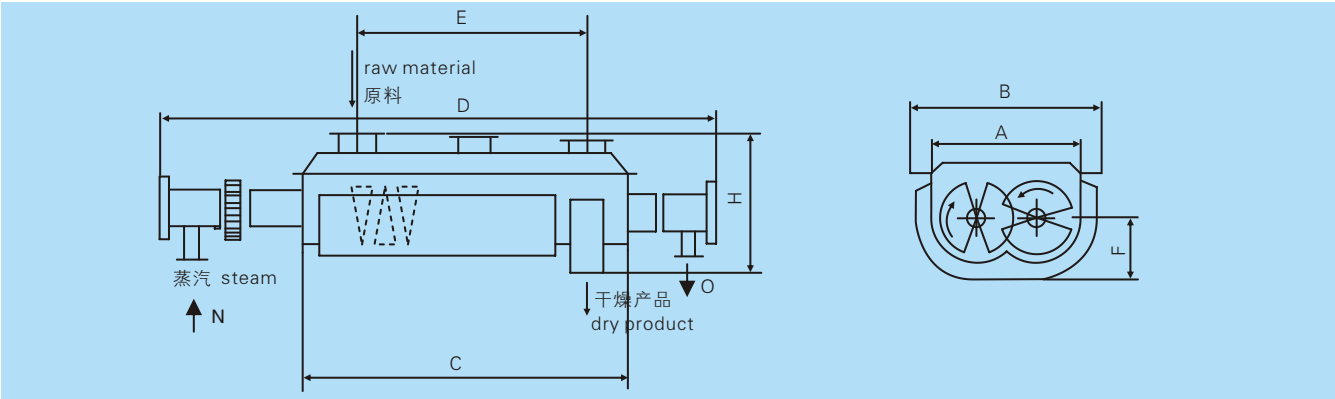
物料名称	物料形状	初水份 (%)	终水份 (%)	床面处理量 (kg/m ² .h)
柠檬酸	粒状	2.5	0.5	200
味精	粒状	5	0.3	200
味精	粒状	5	0.2	280
流胺	粒状	3.01	0.28	700
硼酸	粒状	4.1	0.3	900
揆二酸	针状晶体	9.25	0.15	180
硼砂	粒状	6.5	0.2	500
纤维素(CMC)	絮状	35	3.6	80
三元复合肥	球状	24.4	5.5	280
白炭黑	膏状	78.6	11.8	100
草酸	粒状	6.2	0.1	700
塑料粒子	粒状	3.7	0.01	300
中药饮片	片状	58	4	40
高锰酸钾	粒状	3.7	0.15	500
阿司匹林	粉状	3.1	0.1	600
钙镁磷肥	粉状	11.1	0.35	400
豆粕	片状	16.8	12.5	1000
膨润土	粉状	20.5	0.5	500
大豆	丸状	12.2	10.9	1200
活性白土	粉状	43.7	17.9	180
玉米胚芽	粒状	55	5	50
豆瓣	片状	18.9	13	1100
火柴杆	条状	46.9	8	100
茶叶	条状	15	7.4	300
酒精	粒状	74	8.2	50
烟梗丝	丝状	30	14	200
饵料	条状	28	6.9	150
珍珠粉	粉状	9.1	0	450
洗衣粉	粉状	10	1.75	300
催化剂	粒状	25.5	2.3	100-300
精盐	粒状	1.85	0	2400
聚乙烯	粉状	21	0.06	120
聚氯乙烯	粉状	12.8	0.29	150
淀粉	粉状	43.4	13.2	90
鸡精	粒状	5-7	00.5	190



概述 Descriptions

- 桨叶式干燥器是一种在设备内部设置搅拌桨，使湿物料在桨叶的搅动下，与热载体以及热表面充分接触，从而达到干燥目的的低速搅拌干燥器，结构形式一般为卧式，双轴或四轴。
- 桨叶式干燥器分为热风式和传导式。热风式即通过热载体（如热空气）与被干燥的物料相互接触并进行干燥，在传导式中热载体并不与被干燥的物料直接接触，而是热表面与物料相互接触。传导式的优点是物料不易被污染，排气量小，热效率高，体积相对小，有利于节约能源及防止空气污染。
- 适用范围：塑料、树脂类产品、无机药品、肥料、饲料、食品、化纤、染料、淀粉、下水管污泥等产品的干燥。如：氯乙烯、树脂、尼龙、聚乙烯、聚丙烯、淀粉、氯化钠、砂糖、氧化铁、长石、烧碱粉末、纯碱等各种粉粒及膏状物料。
- Oar drier is low speed churned drier that equipped oars inside equipment. The damp raw material is churned to ample connecting with hot carry and the surface, its structure can be horizontal, double scrolls or four scrolls.
- There are hot air style and transfer style two styles. The drying in hot air style is completed through connection of hot air and material. In transfer style, material is connected with hot surface to drying, it can prevent pollution of material. The air outlet is few, efficiency is high, small size, save energy and prevent pollution of air.
- It is suitable for drying in plastic, resin, inorganic compounds, machine, fertilizer, feed, dyestuff, starch, mud and so on. Such as.

安装结构图 Schematic of installation



特点 Features

- 设备紧凑，占地面积小，热传导系数高，热效率极佳，一般可达到80%-90%，是节能型设备。
- 设备低转速，对颗粒状及片状物料的破碎性很小。
- 对物料适应性广，操作弹性大，物料停留时间几分钟到几小时，可调。
- 附属设备简单，投资少，操作费用低。
- 一机多用，可作干燥、冷却、气体回收、反应加热（预杀菌）等工艺操作。
- Compact struture, small occupied space, high degree of heat conducting, best heat effeat. In general heat effect is attion to 80%-90%, it is a kind of device in saing energy.
- Low speed, it is difficult to break into shaping of granule and slice raw material.
- To raw material, wide use, easy to operate and raw material is adjustable from few minuters to few hours.
- The attachment is simple, and will save invetment.
- There is many uses by it, such as drying, cooling recovering air, kesponding, heating and so on.

技术参数 Technical parameters

型号model \ 项目item	JYG-3	JYG-9	JYG-13	JYG-18	JYG-29	JYG-41	JYG-52	JYG-68	JYG-81	JYG-95	JYG-110
传热面积m ² Heat transferring area m ²	3	9	13	18	29	41	52	68	81	95	110
有效容积m ³ effective volume m ³	0.06	0.32	0.59	1.09	1.85	2.8	3.96	5.21	6.43	8.07	9.46
转速范围r.m.p range of rotating speed r.m.p.	15-30	10-25	10-25	10-20	10-20	10-20	10-20	10-20	5-15	5-15	5-10
功率kw power kw	2.2	4	5.5	7.5	11	15	30	45	55	75	95
器体宽A mm width of vessel mm	306	584	762	940	1118	1296	1474	1652	1828	2032	2210
总宽B mm total width mm	736	841	1066	1320	1474	1676	1854	2134	1186	2438	2668
器体长C mm length of vessel mm	1956	2820	3048	3328	4114	4724	5258	5842	6020	6124	6122
总长D mm total length mm	2972	4876	5486	5918	6808	7570	8306	9296	9678	9704	9880
进出料距E mm distance of material inlet & outlet mm	1752	2540	2768	3048	3810	4420	4954	5384	5562	5664	5664
中心距F mm height of center mm	380	380	534	610	762	915	1066	1220	1220	1220	1220
总高G mm total height mm	762	838	1092	1270	1524	1778	2032	2362	2464	2566	2668
进汽口N（寸） steam inlet "N"(inch)	3/4	3/4	1	1	1	1	11/2	11/2	11/2	11/2	2
进水口O（寸） water outlet "O"(inch)	3/4	3/4	1	1	1	1	11/2	11/2	11/2	11/2	2

概述 Descriptions

TG系列滚筒干燥机的工作原理是让液体或泥浆状物料在水蒸汽或其它热载体加热的滚筒表面形成薄膜，并在滚筒转一圈的过程中便被干燥完毕，利用刮刀把产品刮下来，露出滚筒表面再次与原料接触形成薄膜进行干燥。

TG series cylinder operation principle of desiccator to let liquid or mud form supplies form the membrane in steam or other hot cylinder surface that carrier heated, and dry to finish while the cylinder turns around, is it blow handle of a knife product is it get off to blow to utilize, the cylinder surface emerges to contact and form the membrane to carry on with raw materials drily again.



特点 Features

- 以蒸汽或导热油为热源，受热面积大，热效率高，加热均匀。
- 干燥速率大，筒壁上湿料膜的传热与传质过程由里向外方向一致，温度梯度大，使料膜表现保持较高的蒸发强度。
- 干燥时间短，一般为7-30秒左右，适合热敏性物料。
- 操作方便，维修便利。
- As heat source, heat area to be heavy with steam or heat conduction, high thermal efficiency have, it is even to heat.
- It is dry speed the heavy, tube there is with spreading quality course material heat transfer of membrane not wet at wall from on direction not outside the unanimous, the temperature gradient is large, make the material membrane display and keep the intensity of higher evaporation.
- Dry time is short, it is generally about 7-30 seconds, suitable for the temperature sensing supplies.
- Easy to operate, it is convenient to maintain.

应用 Applications

TG系列滚筒干燥机广泛用于食品、化工、医药等行业粘性、膏糊状物料制片、干燥等工序。Such processes as the TG series cylinder desiccator is used in such trades as the food, chemical industry, medicine, etc. viscosity, lotion pastel supplies film-making, dry extensively.

技术参数 Technical parameters

规格 Model size	滚筒尺寸 Sizes of Cylinder Diameter×Length (mm)	有效加热面积 Effective Heating Area(m ²)	干燥能力 Drying capacity (Kg/ h)	蒸汽耗量 Steam Consumption(kg/h)	电机功率 Power of Motor (kw)	外形尺寸 Sizes L×W×H (mm)	重量 Weight (kg)
TG-600	Φ600×800	1.12	40-70	100-175	1.1	1700×800×1500	850
TG-700	Φ700×1000	1.65	60-90	150-225	2.05	2100×1000×1800	1210
TG-800	Φ800×1200	2.26	90-130	225-325	3.75	2500×1100×1980	1700
TG-1000	Φ1000×1400	3.30	130-190	325-475	4.75	2700×1300×2250	2100
TG-1200	Φ1200×1500	4.24	160-250	400-625	4.75	2800×1500×2450	2650
TG-1400	Φ1400×1600	5.28	210-310	525-775	6.25	3150×1700×2800	3220
TG-1600	Φ1600×1800	6.79	270-400	675-1000	6.25	3350×1900×3150	4350
TG-1800	Φ1800×2000	8.48	330-500	825-1250	8.6	3600×2050×3500	5100
TG-1800A	Φ1800×2000	10.60	420-630	1050-1575	8.6	4100×2050×3500	6150



概述 Descriptions

湿物料从干燥机一端投入后,在内筒均布的抄板器翻动下,物料在干燥器内均匀分布与分散,并与并流（逆流）的热空气充分接触,加快了干燥传热,传至推动力。在干燥过程中,物料在带有倾斜度的抄板和热气流的作用下,可调控地运动至干燥机另一段星形卸料阀排出成品。

Wet material is loaded from one head of the dryer, and then it is stirred by the bafflers that is uniformly distributed in the barrel. Material is uniformly distributed and dispersed in the dryer, fully contact the hot air of parallel (or counter) flow, so the drying process is expedited, and the impulsion power of media transfer is enhanced. During the drying process, material is under the effect of angled baffler and hot air, moves to the star shape unloader that is at the other head of the dryer.

应用 Applications

- 1.化工、矿山、冶金等行业大颗粒，比重大物料干燥，如：矿山、高炉矿渣、煤、金属粉末、磷肥、硫铵
- 2.对有特殊要求的粉末、颗粒状物料的干燥，如：Hp发泡剂、酒糟渣、轻质碳酸钙、活性白土、磁粉、石墨、药渣。
- 3.要求低温干燥，且需大批量连续干燥的物料。

Applicable for drying big particles, heavy particles in chemical, mining, and metallurgy, such as mining area, cinder of blast furnace, coal, powder of metal, phosphate fertilizer and thiamine. For drying the powder or particles with special requirements, such as HP foaming blowing agent, residule of alcohol, light calcium carbonate, active clay, magnetic powder, graphite, and residue of medicine. For materials to be dried under low temperature and large lot continuous production .

特点 Features

- 转筒干燥器机械化程度高，生产能力较大。
- 流体通过筒体阻力小，功能消耗低。
- 对物料特性的适应性比较强。
- 操作稳定，操作费用较低，产品干燥的均匀性好。
- The motorization level of the barrel is high, and the production capacity is high;
- The resistance that the material passes through the barrel is less, and the power consumption is low.
- Application capability to different characters of materials is high.
- The operation is stable, the operation fee is low, and the uniformity of product drying is good.

技术参数 Technical parameters

规格 Item(m)	生产能力 Productive capacity(t/h)	筒体速度 Revolution(r/min)	电机功率 Motor power(kw)	安装角度 Install angle(°)	出料湿度 Temp.of final
Φ1.0×5.0	0.5-1.2	0.6-6	4	3-5	≤1.5%
Φ1.2×6-10	1.5-3	0.6-6	5.5	3-5	≤1.5%
Φ1.5×12-18	3-5.5	0.6-6	15	3-5	≤1.5%
Φ1.8×12-18	5-6.5	0.6-6	18.5	3-5	≤1.5%
Φ2.2×12-22	7-12	0.6-6	22	3-5	≤1.5%
Φ2.4×15-20	9-15	0.6-6	30	3-5	≤1.5%
Φ3.0×25	16	0.6-6	55	3-5	≤1.5%

型号model	直接加热顺流式 direct heating clockwise flow spec	直接加热顺流式 direct heating clockwise flow spec	直接加热逆流式 heat directly countercurrent spec	直接加热逆流式 heat directly countercurrent spec	复合加热 complex heat	复合加热 complex heat
物料种类 kinds of raw material	矿石 ore	HP发泡剂 vesicant	高炉矿渣slag of blast furnace	硫铵 ammonium sulphate	磷肥phosphorus fertilizer	煤 coal
处理量 amount to be treated(Kg/h)	1000	466	15000	20000	12000	5000
初含水量 primary moisture (%)	30	13	6	1.5	5	6.5
终含水量 final moisture (%)	15	0.3	1	0.1	0.1	0.1
平均粒径 average diameter(mm)	6.5	0.05	4.7	0.5-0.7	0.5	5
物料堆积重度 bulk density of rawmaterial kg/m2	770	800	1890	1100	1500	750
热风度amount of hot air (m³/kg)	39000	5400	10750	9800	6500	16000
入口气体温度temperature of air at inlet (℃)	600	165	500	180	650	570
物料出口温度temperature of raw material at outlet (℃)		42	100	70	80	75
加热方式 way of heating	煤气 gas	蒸气式电加热 electric heating	重油 heavy oil	燃煤热风炉coal fuel hot air furnace	重油 heavy oil	重油 heavy oil
装料系数loading efficiency (%)		6.3	7	7.5	7.8	18
转速revolution (r.p.m)	4	4	3.5	3	4	2
倾斜度gradient (m/m)	0.04	0.005	0.03	0.05	0.05	0.043
抄板数目 quantity of stirring-up rake	12	24	12	22	内筒外面8外筒内面16 outer of inner cylinder8 inner of outer cylinder16	6 2
干燥器直径 diameter of dryer (m)	2.0	1.5	2	2.3	外筒2内筒0.84 outer cylinder2, inner cylinder0.84	外筒2.4内筒0.95 outer cylinder24, inner cylinder0.95
干燥器长度length of dryer (m)	20	12	17	15	10	16
驱动功率driving power (kw)	22	7.5	15	11	11	15

原理 Principles

湿物料自顶部加料口进入螺旋床内，在周向激振力及重力的作用下，物料沿螺旋床自上而下作跳跃运动，直至最底层出料；同时，洁净的热风由螺旋床底部进入，与分布在床上的物料进行充分的传热和传质后，由顶部排湿口排出，从而使湿物料达到了干燥的目的。

The wet raw material enters into helix bed from fed inlet at the top and moves along with the helix bed from up to low and make jumping to the bottom, under the effect of vibrating force and gravity and then it's discharger. Meanwhile clean hot air enters into it from the bottom of helix bed and carries out heat exchange with raw material on the helix bed fully and exhausts from the outlet at the top. In this way the dry purpose of wet raw material is realized.



特点 Features

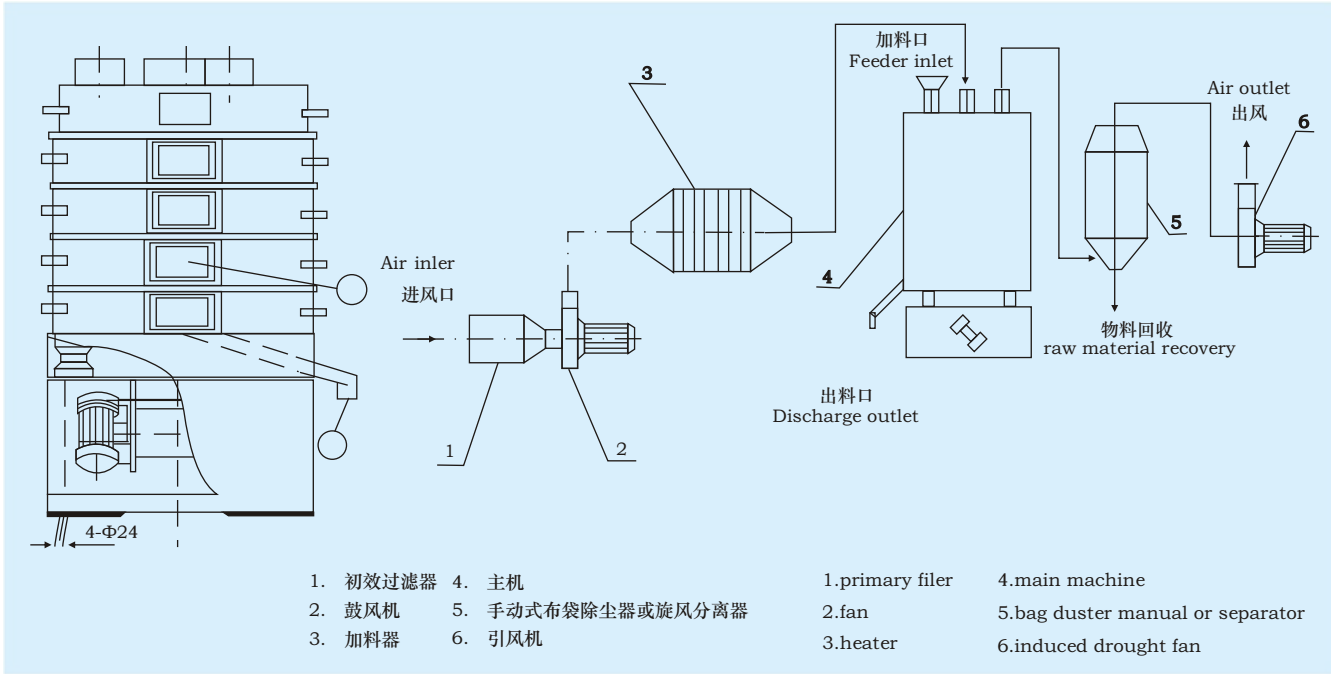
- 热风多次穿过物料层与物料逆向流动，使热交换充分，热效率高。
- 结构紧凑，占地面积小。
- 物料在床内停留时间可调节，操作方便。
- 物料沿螺旋床自下而上作圆周运动的同时，自身也产生跳跃，从而增加了物料与热风的接触，增强了干燥效果。
- 连续的进出料适合于流水线，并且易达到“GMP”规范，可代替传统的箱式干燥。
- 对物料的表面及形状基本没有损伤，不仅保证了丸剂的圆度，而且大大的降低了丸剂的破碎率。
- Because the hot air passes through the layer of raw material several tiers and acts counter motion towards the raw material, the heat exchanger is fully preferment and thermal efficiency is high.
- The structure is compact and it occupies small area.
- The stay time of raw material in the helix bed can be adjusted and the operation is very convenient.
- The raw material acts the motion if circle at helix bed from up to low, at the same the equipment can jump itself, so the contact surface between hot air and raw material is increased too and the dry effects is strengthened.
- The equipment is suitable for continuous operation because of continuous feeding and discharging raw material. Meanwhile it is easy to meet the requirements of "GMP".
- It does not damage the surface and shape of raw material basically. It can not only maintain the roundness of pill but also decrease the rate of pills.

应用 Applications

LZG螺旋振动干燥机主要适用于中药丸剂的干燥，也可适用于化工、制药、食品、塑料、建材、饲料等行业的颗粒状、短条状、球状物料的干燥。

LZG helix vibration drier is mainly used for drying pill of Chinese traditional medicine. It can also be suitable for drying granule, short strip and ball raw material of chemical industry, pharmaceutical industry, foodstuff industry, construction material industry, feed industry and so on.

结构示意图 Schematic of structure



技术参数 Technical parameters

型号 spec	单位 unit	LZG-1.0	LZG-1.2	LZG-1.4	LZG-1.6	LZG-1.8
直径 diameter	mm	1000	1200	1400	1600	1800
振动电机功率 power	kw	2×0.75	2×0.75	2×1.5	2×1.5	2×2.2
外形尺寸 over all dimensions	m	1.2×1.2×2.7	1.4×1.4×2.7	1.6×1.26×3	1.8×1.8×3.3	2.0×2.0×3.3
重量 weight	kg	1400	1680	2800	3100	3800
生产能力 production capacity	kg/h	80-120	120-200	200-280	280-350	350-450
进风温度 temperature of air intel	℃	60-200	60-200	60-200	60-200	60-200
风量 air amount	m ³ /h	1487	2380	3721	4462	5930
风机功率 power of fan	kw	5.5	7.5	15	18.5	22

生产能力与物料含水量及终水分有关.表中数据为中药丸的生产能力(中药丸的初水分一般为<35%,终水分一般为<3%)
Note:the production capacity is concerned with the moisture of raw material and the final moisture of finished product. The data listed in the table indicates the production capacity of pill of Chinese traditional medicine(the primary moisture of pill Chinese traditional med icine is less than35% and the moisture of finished product is less than 3%)



概述 Descriptions

喷雾干燥是液体工艺成形和干燥工业中最 广泛应用的工艺。最适用于从溶液、乳液、悬浮液和可泵性糊状液体原料中生成粉状、颗粒状固体产品。因此，当成品的颗粒大小分布、残留水份含量、堆积密度和颗粒形状必须符合精确的标准时，喷雾干燥是一道十分理想的工艺。

The spray drying is the technology widest used in the liquid technology shaping and in the drying industry. The drying technology is most suitable for producing the powder, particle or block solid products from the materials, such as: solution, emulsion, soliquoid and pumpable paste states. For this reason, when the particle size and distribution of the final products, their residual water contents, the stacking density and the particle shape must meet the precision standard, the spray drying is one of the most desired technologies.

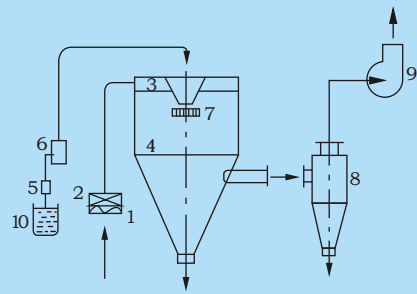
原理 Principles

空气经过过滤和加热，进入干燥器顶部空气分配器，热空气呈螺旋状均匀地进入干燥室。料液经塔体顶部的高速离心雾化器，（旋转）喷雾成极细微的雾状液珠，与热空气并流接触，在极短的时间内可干燥为成品。成品连续地由干燥塔底部和旋风分离器中输出，废气由风机排空。

After filtering and heating, the air enters into the air distributor at the top of the drier. The hot air enters into the drying chamber in the spiral from and uniformly.By passing through the high-speed centrifugal spray at the top of the tower, the material liquid will rotate and be sprayed into the extremely fine mist liquid beads.Through the very short time of contacting the heat air,the materials can be dried into the finished products. The finished products will separator. The waste gas will be discharged from blower.



流程示意图 Flow chart



- 1.空气过滤器 Air filter
- 2.加热器 Heater
- 3.热风分配器 Hot air distributor
- 4.干燥室 Drying room
- 5.过滤器 Filter
- 6.泵 Pump
- 7.喷头 Nozzle
- 8.旋风分离器 Whirl separator
- 9.风机 Blower
- 10.料液槽 Material liquid groove

特点 Features

干燥速度快，料液经雾化后，表面积大大增加，在热风气流中，瞬间就可蒸发95%-98%的水份，完成干燥时间仅需数秒钟，特别适用于热敏性物料的干燥。

产品具有良好的均匀度、流动性和溶解性、产品纯度高、质量好。

生产过程简化，操作控制方便。对于湿含量40-60%(特殊物料可达90%)的液体能一次干燥成粉粒产品，干燥后不需粉碎和筛选，减少生产工序，提高产品纯度。对产品粒径、松密度、水份，在一定范围内可通过改变操作条件进行调整，控制和管理都很方便。

At a high speed of drying, after the spraying of the liquid material , the surface area of the material will be increased greatly. In the hot-air flow, 95%-98%of water can be evaporated at a moment. The time of completing the drying needs only several seconds.

This id especially suitable for drying the heat sensitive materials. Its final products own the good uniformity, mobility, dissolving capacity. And the final products are high in their purity and good in their quality.

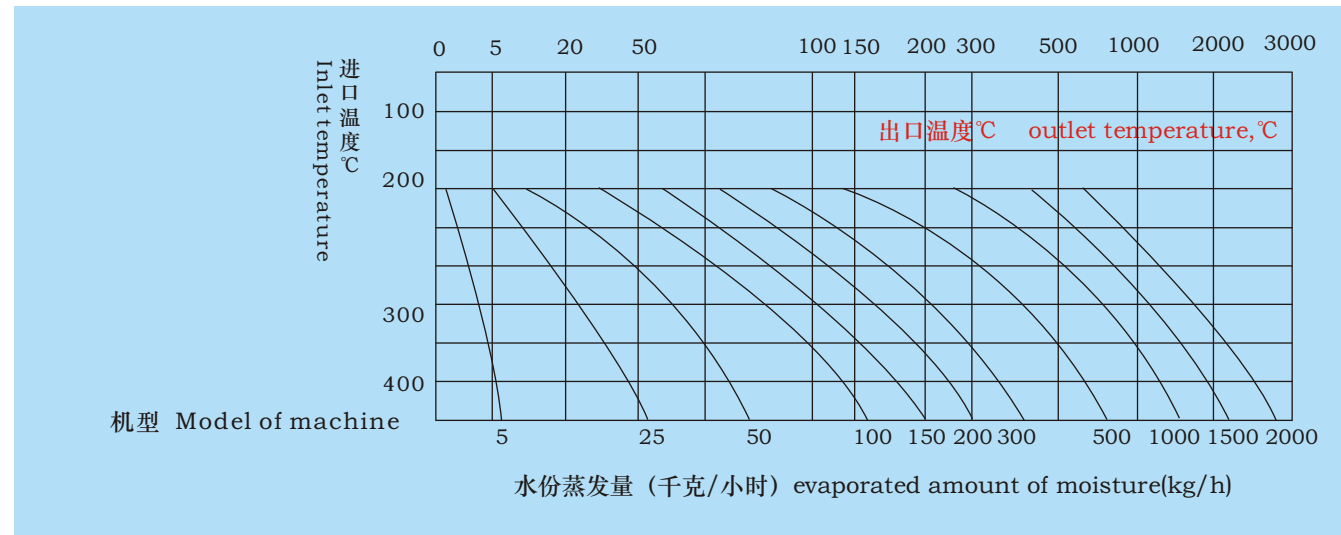
The production procedures are simple and the operation and control are easy. The liquid with the moisture contents 40-60%(for special materials, The contents may reach 90%).can e dried into the powder or particle products once a time. After the drying, there is no need for smashing and sorting, so as to reduce the operation procedures in the production and to enhance the product purity. The product particle diameters, looseness and water contents can be adjusted through changing the operation condition in a certain scope. It is very convenient to carry out the control and management.



技术参数 Technical parameters

型号Type		LPG					
项目 Item	参数Parameter	5	25	50	100	150	200-2000
入口温度 Inlet temperature(℃)		140-350自控 automatically controlled					
出口温度 Outlet temperature(℃)		-80-90					
水份最大蒸发量(kg/h) Max.water evaporation capacity		5	25	50	100	150	200-2000
喷雾形式 Way of atomizing		压缩空气传动 Compressed air transmission		机械传动 Mechanical transmission			
转速 Rotation speed(r.p.m)		25000	18000	18000	18000	15000	8000-15000
雾化盘直径 Diameter of atomizing tray(mm)		50	100	120	140	150	180-340
热源 Heat supply		电 Electricity	电+蒸汽 Electricity+steam	电+蒸汽、燃油、煤气 Electricity+steam, fuel oil and gas			由用户自己解决 Settled by users themselves
电加热最大功率 Max Electric heating power(kw)		9	36	63	81	99	
长度×宽度×高度 (m) Length ×Width ×Height		1.8×0.93×2.2	3×2.7×4.26	3.7×3.2×5.1	4.6×4.2×6	5.5×4.5×7	根据具体情况确定Decided according to be concrete conditions
干粉回收率 Dried powder restoring rate(%)		≥95					

应用 Applications



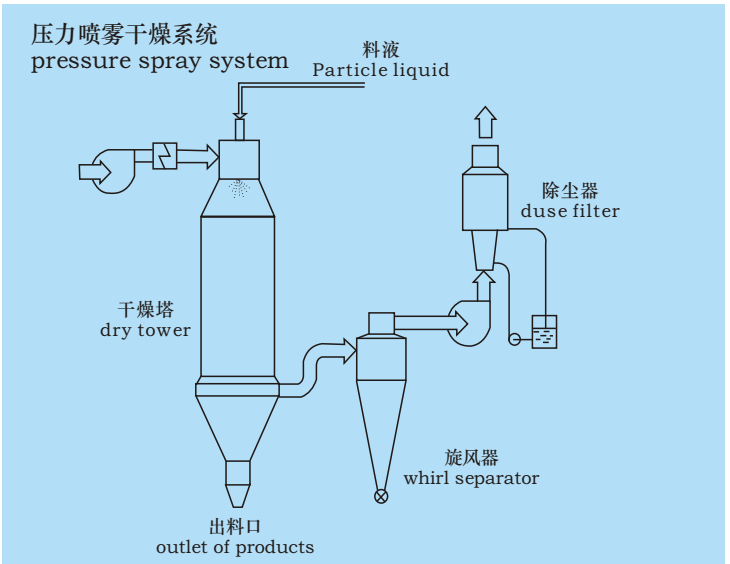
- 化学工业
氟化钠(钾)、碱性染料颜料、染料中间体、复合肥、甲醛硅酸、催化剂、硫酸剂、氨基酸、白炭黑等。
- 塑料树脂
AB, ABS乳液、尿醛树脂、酚醛树脂、密胺(脲)甲醛树脂、聚乙烯、聚氯乙烯等。
- 食品工业
富脂奶粉、酪朊、可可奶粉、代乳粉、猪血粉、蛋清(黄)等。
食物及植物：燕麦、鸡汁、咖啡、速溶茶、调味香料肉、蛋白质、大豆、花生蛋白质、水解物等。
糖类：玉米浆、玉米淀粉、葡萄糖、果胶、麦芽糖、山梨酸钾等。
- 陶瓷、氧化铝、瓷砖材料、氧化镁、滑石粉等。
- Chemical Industry
Sodium fluoride(potassium), alkaline dyestuff and pigment, dyestuff intermediate, compound fertilizer, formic silicic acid, catalyst, sulphuric acid agent, amino acid, white carbon and so on.
- Plastics and resin
AB, ABS emulsion, uric acid resin, phenolic aldehyde resin, urea-formaldehyde resin, formaldehyde resin, polythene, polychloroprene and etc.
- Food Industry
Fatty milk powder, protein, cocoa milk powder, substitute milk powder, egg white(yolk), food and plant, oats, chicken juice, coffee,
instant dissoluble tea, seasoning meat, protein, soybean, peanut protein, hydrolysate and so forth.

概述 Descriptions

本机是将料液压入位于塔体顶部的喷嘴雾化成微小雾滴，同塔顶热风平行而下完成干燥。该机具有收尘率高，无粘壁、节能高效等特点，特别适用于热敏性物料干燥。广泛应用于食品染料、中间体等行业。

The material is sprayed into exiguity fog by nozzle on the top of tower. Follow the heat wind, the material is dried. The machine's characteristic is high collect drit, no past, economizing energy, high effect, and wide used in food, dyestuff, chemical industry and so on.

工艺流程 Flow chart



技术参数 Technical parameters

型号 Type	50	100	150	200	300	500	1000
水份蒸发量 Water evaporation capacity kg/g	50	100	150	200	300	500	1000
外形尺寸 Overall dimension (φ×H) mm	1600×890	2000×11500	2400×13500	2800×14800	3200×15400	3800×18800	4600×22500
高压泵压力 High-pressure pump pressure Mpa	2-10						
功率 Power KW	8.5	14	22	24	30	82	30
进风温度 Inlet air temperature °C	300-350						
产品含水量 Product water contents %	<5(可达0.5) Less than 5; and 0.5 can be reached						
物料回收 Material restoration %	>97						
电加热 Electric heating Kw	75	120	150	温度低于200时，具体按实际计算。 When the temperature is lower than 200, the parameters should be calculated according to the practical condition.			
电加蒸汽 Electrically producing steam Mpa+kw	0.5+54	0.6+90	0.6+108				
热风炉 Hot air furnace Kcal/h	100000	150000	200000	300000	400000	500000	1200000



应用 Applications

本机主要适用于医药、食品、化工等行业进行粉末或颗粒物料的干燥。

- 食品工业：全脂奶粉、脱脂奶粉、可可奶粉、代乳粉、蛋白(黄)等。燕麦、鸡汁、咖啡、速溶茶、调味香料肉、蛋白质、大豆、花生、蛋白质、蛋白质水解物等。玉米浆、玉米淀粉、葡萄糖、果胶、麦芽糖、山梨酸钾、南瓜粉等。
- 医药品：中药浸膏、药胶、酵母、维生素、抗生素、淀粉酶、脂肪酶等。
- 塑料树脂：AB、ABS乳液、尿醛树脂、酚醛树脂、密胺(脲)甲醛树脂、聚乙烯、聚氯乙烯等。
- 洗涤剂：高级洗衣粉、普通洗衣粉、肥皂粉、苏打粉、乳化剂、增白剂、磷酸剂等。
- 化学工业：氟化钠(钾)、碱性染料颜料、染料中间体、 Mn_3O_4 、甲基硅酸、催化剂、硫酸剂、氨基酸、白炭黑等。
- 陶瓷：氧化铝、瓷砖材料、氧化镁、滑石等。
- 其它：氢氧化铝、氯化钙、硬脂酸剂等冷却喷雾。

- Food Industry: fatty milk powder, protein, cocoa milk powder, substitute milk powder, egg white(yolk), food and plant, oats, chicken juice, coffee, instant dissoluble tea, seasoning meat, protein, soybean, peanut protein, hydrolysate and so forth. Sugar, corn syrup, corn starch, glucose, pectin, malt sugar, sorbic acid potassium and etc.
- Medicine: Traditional Chinese medicine extract, ointment, yeast, vitamin, antibiotic, amylase, lipase and etc.
- Plastics and resin: AB, ABS emulsion, uric acid resin, phenolic aldehyde resin, urea-formaldehyde resin, formaldehyde resin, polythene, poly-chlor-oprene and etc.
- Detergent: Common washing powder, advanced washing powder, soap powder, soda ash, emulsifier, brightening agent, orthophosphoric acid and etc.
- Chemical Industry: Sodium fluoride(potassium), alkaline dyestuff and pigment, dyestuff intermediate, compound fertilizer, formic silicic acid, catalyst, sulphuric acid agent, amino acid, white carbon and so on.
- Ceramic: aluminium oxide, ceramic tile material, magnesium oxide, talcum and so on.
- Other: Calmogastrin, hime chloride, stearic acid agent and the cooling spray.



概述 Descriptions

该机采用全封闭式，所有部件均采用不锈钢制造，配有三级净化装置，过滤后的空所达十万级要求。筒体与顶部装有冷壁装置，使壁温 $<80^{\circ}C$ ，物料在壁上停留也不焦化变质现象，大大增加了收粉率（达95%以上），而且不会产生混药现象和粘壁现象。

基本原理：中药浸膏高速离心喷雾装置是离心式喷雾干燥技术在特定物料干燥中的应用，也是利用高速离心式雾化器使物料分散成雾状，与热空气所充分接触，完成瞬间干燥，形成粉状成品的干燥装置。

中药浸膏专用于干燥机是专门用来解决，中药浸膏和植物撮液的喷雾干燥机，它解决了物料在原LPG高速喷雾干燥机在中药浸膏干燥中出现的以下情况：

- 1.物料粘壁，收粉率低；
- 2.物料在壁上停留时间长，产生物料的焦化变质现象
- 3.难以清洗，不符合GMP要求；
- 4.产量低：LPG-150型喷雾干燥机，其产量只能处理50-60Kg/h液料。

鉴于以上状况，我厂根据中药浸膏的物料性质与工艺要求设计了中药浸膏干燥机难题，干燥后的物料颜色好、不变质，大大地提高了工厂的经济效益，中药浸膏与LPG高速离心喷雾干燥机相比有以下特点：

- 1.采用了三级空气净化，使进风达到30万级要求；
- 2.采用了冷壁装置，使内壁温度达到 $80^{\circ}C$ ，物料在壁上停留也不焦化；
- 3.整个体积是原LPG标准离心喷雾的3.5倍。
- 4.采用快开冲洗装置，适用于多品种生产要求
- 5.除尘采用了湿式除尘，使粉尘无外出，符合环保要求；
- 6.采用气扫装置，其效果更令人满意；
- 7.提供雾化器2台，并采用变频调速
- 8.采用了PLG控制，程控系统屏幕显示；
- 9.带冲洗装置
- 10.采用干空气密闭输送；

The machine adapts full seal form. All parts are made of stainless steel. It is equipped with three grades of purifying apparatus. The filtered air reaches the requirement of one hundred grades. The cooling appetites of wall is installed at the cylinder body and top. It makes the wall temperature less than $80^{\circ}C$, Air sweeping device is installed inside the drying tower. The dried immrsedointment powder is raised greatly. Moreover it can not appear the phenomenon of carbonization and degeneration. The ratio of received powder is raised greatly. Moreover it can not produce the phenomenon of medicine mixing and wall staying.

Basic principle: high-speed centrifuge atomizing apparatus for immersed ointment of traditional Chinese medicine is an application of centrifuge atomizing technique Special raw material. It is an apparatus using high-speed atomizing drier.

1. Being adapted three-grade air purification, the inlet air reaches the requirement of one hundred thousand grade;
2. Being adapted wall cooling device, the temperature of inner wall will be $80^{\circ}C$, Even if raw material is stayed on the wall, it can not carbonize;
3. Its whole volume is 3.5 times of standard LPG high-speed atomizing drier;
4. Being adapted quick washing device, it is can meet the requirements of production for varieties products;
5. Being adapted quick washing device, there is no powder dust out. It is conformity with the requirement of GMP;
6. Being adapted air sweeping device, the clean effect is satisfied;
7. Equipped two sets of atomizer and adapted frequency control;
8. Adapted PLC control and display and adapted frequency control;
9. Equipped with washing device;
10. Adapt the seal method to transport dry air.



主塔干燥系统



ZLG Series Spray Drier for Chinese Traditional Medicine Extract
ZLG系列中药浸膏专用喷雾干燥机

干燥系列



冷冻除湿冷却系统



扫壁系统



控制系统

特点 Features

- 塔体具有冷风夹套；
 - 塔体上装有自动振打装置；
 - 塔体、管路配有快开清洗孔及排污孔；
 - 自动控制恒温加料罐；
 - 手工高压洗塔随机附件；
 - 与物料接触的部分采用不锈钢材料制作；（或全不锈钢制造）
 - 物料收集采用两级旋风除尘装置，或一级旋风除尘器和湿式除尘器；
 - 进风温度实现自动控制及连续装置。
 - 配有气扫装置。
- Tower body has jacket of air.
 - Tower body is equipped with automatic vibration and beating device;
 - Tower body and pipe line have cleaning hole and sewage discharge hole that can open quickly.
 - Thermostar ending tank;
 - Accompanied parts of high pressure washing tower;
 - The parts that can contact with raw material are made of stainless steel fully;
 - The collecting fo raw material adapts two gradecyclone duster or one-grade cyclone duster and one-grade damp duster ;
 - The temperature of inlet air can be controlled automatically and continuously;
 - Equipped with air sweeping device.

技术参数 Technical parameters

型号	ZLG-5	ZLG-10	ZLG-25	ZLG-50	ZLG-80	ZLG-100	ZLG-150	ZLG-200	ZLG-300
水份蒸发量 Evaporated amount of moisture(kg/h)	5	10	25	50	80	100	150	200	300
料液处理量 Treated amount of raw material liquid(kg/h)	6-7	12-14	25-34	50-68	80-108	100-135	150-203	200-270	300-406
成品产量 Output of finished product(kg/h)	1-2	2-4	4.8-7.2	9.2-14	14.8-22.4	18.4-28	24-42	36.8-56.4	55-85
湿物料含固量 Solid content of damp raw material(%)	18-25								
成品含水率 Ratio of moisture offinished product(%)	3-5								
电功率 Electric power(kw)	36	45	63	99	132	153	204	246	330
加热源 Heating source	蒸汽+电 Steam pius electricity								
产品捕集方式及效率 Collecting way of product and its efficiency	两级旋风除尘器或一级旋风除尘器及一级湿式除尘器≥95%Two-geade cyclone duster of one-grade cyclone duser and one-grade damp duster≥95%								
自控仪表 Automatic control meters and instruments	热风温度及排风温度指标，自动调节温控仪 Indicator of temperature of air and humidity of air exhaust								
进风温度 Temperature of air in(℃)	150-200								
出风温度 Temperature of air out(℃)	80-100								
外形尺寸 Overall diimens(mm)	长L	5000	5500	7000	8000	9800	11000	12200	14100
	宽W	3000	3500	4000	5000	5700	6200	7000	7800
	高H	4500	4600	5200	6500	7600	8100	9000	9850

注：以上数据仅供选型时参考，我公司保留更改上述数据的权利，如有变动，恕不另行通知。



制粒篇
GRANULATOR ARTICLES



应用 Applications

- 制药工业中的造粒：片剂颗粒、冲剂颗粒、胶囊剂颗粒。
- 食品工业的造粒：可可、咖啡、奶粉、颗粒果汁、调味品等。
- 其他行业的造粒：农药、饲料、化肥、颜料、染料化工等。
- 粉状或颗粒状湿物料的干燥。
- 包衣：颗粒、丸剂保护层、备色、缓释、薄膜、肠溶包衣等。
- Phamaceutical industry: tablet, capsule, low sugar or no sugar granule of chinese medicine.
- Foodstuff: cocoa, coffee, milkpowder, juice of granulate, flavoring and so on.
- Other industries: peticide, feed chemical fertilizer, pigment, dyestuff and so on.
- Pharmaceutical industry: tablet.



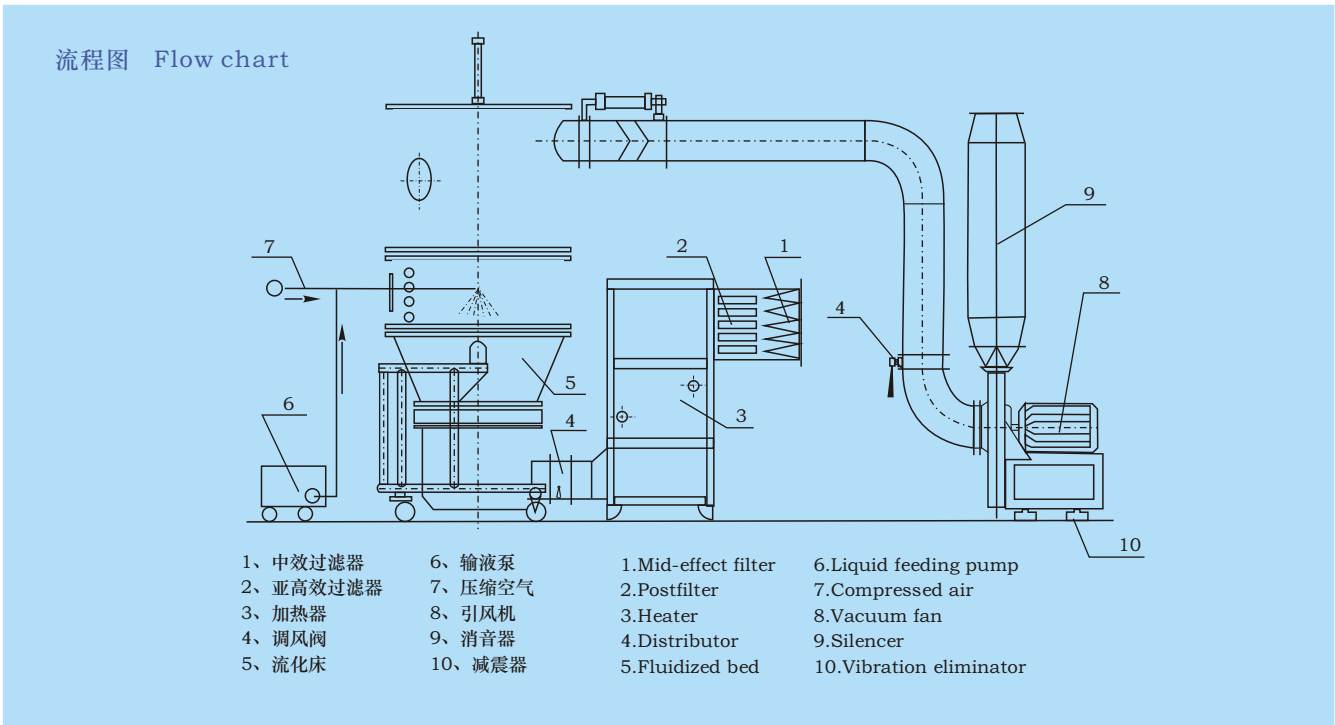
原理 Principles

物料粉末粒子,在原料容器（流化床）中呈环形流化状态,受到经过净化后的加热空气预热和混合,将粘合剂溶液雾化喷入,使若干粒子聚集成含有粘合剂的团粒,由于热空气对物料的不断干燥,使团粒中水分蒸发,粘合剂凝固,此过程不断重复进行,形成理想的、均匀的多微孔球状颗粒。

The powder grannle in the container (fluidization)appear in the state of fluidization. It is preheated and mixed with chen and heated air. At the same time the solution of adhesive solvent is fogged and sprayed into the container. It makes the some particles become granulating that contains adhesive. Being of unceasing dry through hot air, the moisture in the granulation is evaporated and the adhesive is solidification. The process is carried out continuously. Finally it forms ideal, uniform and Porous granules.

特点 Features

- 通过粉体造粒，改善流动性，减少粉尘飞扬；
- 通过粉体造粒改善其溶解性能；
- 混合、制粒、干燥在一机内完成一步法制粒；
- 采用抗静电滤布，设备操作安全；
- 设置压力泄放孔，一旦发生爆炸，设备人员不受伤害；
- 设备无死角，装卸料轻便快速，冲洗干净，满足GMP规范。
- Because of powder Granulation, the fluidity is improved and the dust is reduced;
- Because of powder Granulation, its solving property is improved;
- The mixing, Granulation and drying can be completed in one step inside the machine;
- The operation of equipment is safe because the anti static filtering cloth is adapted;
- The operating personnel can not be damaged if explosion take place because there is releasing hole;
- The equipment has no dead corner. Therefore the loading and unloading are quick and light and clean. It can meet the requirements of GMP.



技术参数 Technical parameters

项目Item		单位Unit	机 型 type								
			3	5	15	30	60	120	200	300	500
原料容器 Container	容量Volume	L	12	22	45	100	220	420	670	1000	1500
	直径Diameter	mm	300	400	550	700	1000	1200	1400	1600	1800
生产能力 Capability	最小Min	Kg	1.5	4	10	15	30	80	100	150	250
	最大Max	Kg	4.5	6	20	45	90	160	300	450	750
风机Fan	风量Capacity	m³/h	1000	1200	1400	1800	3000	4500	6000	7000	8000
	风压Pressure	mmH₂O	375	375	480	480	950	950	950	950	950
	功率Power	kw	3	4	5.5	7.5	11	18.5	22	30	45
蒸汽消耗量Steam expenditure		Kg/h	15	23	42	70	141	211	282	366	451
压缩空气耗量Compressed air expenditure		m³/min	0.9	0.9	0.9	0.9	1.0	1.0	1.1	1.5	1.5
主机重量Weight of the main body		Kg	500	700	900	1000	1100	1300	1500	1800	2000
蒸汽压力Steam pressure		Mpa	0.3~0.6								
温度Temperature		℃	室温-120℃范围内可调节 (adjustable at the range from room temperature to 120℃)								
作业时间Working time		min	随物料特性而定45~90 (decided in accordance with the proplerties of raw materials)								
物料收得率Field		%	≥99								
噪声Noise		dB(A)	风机与主机隔离安装，噪声≤75dB(A)(When installation,main machine is separated from fan)								
主机外型尺寸Size(L×W×H)		m	1.0×0.6 ×2.1	1.2×0.7 ×2.1	1.25×0.9 ×2.5	1.6×1.1 ×2.5	1.85×1.4 ×3	2.2×1.65 ×3.3	2.34×1.7 ×3.8	2.8×2.0 ×4.0	3×2.25 ×4.4



特点 Features

- 本机采用卧式圆筒构造，结构合理。
- 充气密封驱动轴，清洗时可切换成水。
- 流态化造粒，成粒近似球形，流动性好。
- 较传统工艺减少25%粘合剂，干燥时间缩短。
- 每批次干混2分钟，造粒1-4分钟，工效比传统工艺提高4-5倍。
- 在同一封闭容器内完成，干混-湿混-制粒，工艺缩减，符合GMP规范。
- The machine adapts a practical horizontal cylinder structure.
- The driving shaft is equipped with inflatable seal. While washing, the air can be replaced by water.
- Fluidized granulating processed is used and the final granules are quite round with high fluidity.
- Compared with traditional technique, this type of machine can reduce 25% of adhesive and also shorten the drying time.
- For each batch of material, with 2 minutes' dry mixing and 1-4 minutes' granulating, the efficiency is 4-5 times higher than that of traditional technique.
- Dry mixing, wet mixing and granulating are finished inside the same sealed container, which is in conformity with the requirements of "GMP".



标准型standard type



夹套型 jacket type

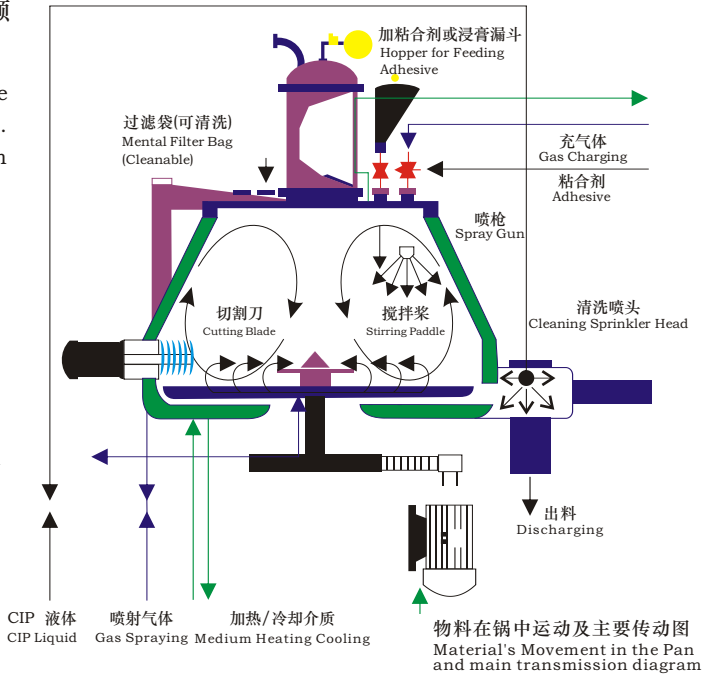
原理 Principles

粉体物料与粘合剂在圆筒形容器中由底部混合浆充分混合成湿润软材，然后由侧置的高速粉碎浆切割成均匀的湿颗粒。

The powder raw material and adhesive in a cylinder are mixed fully at the bottom to turn into a humid soft material. Then it is crushed at a high speed and become uniform granules.

夹套型工艺流程 Flow chart of jacket

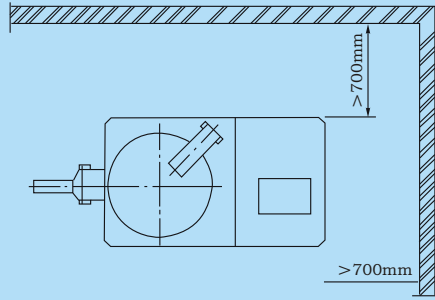
与制粒工艺相配套的组件
Auxiliary Parts Related to the Technique of Granulation



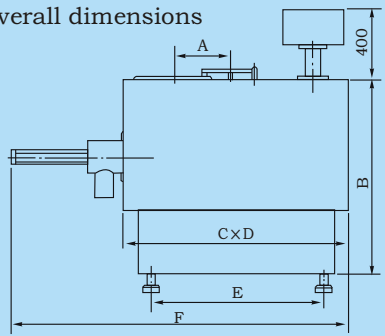
技术参数 Technical parameters

名称 Name	规格 Specification							
	10	50	150	200	250	300	400	600
容积 Capacity (L)	10	50	150	200	250	300	400	600
产量Output (kg/batch)	3	15	50	80	100	130	200	280
混合速度 Mixing speed (r.p.m)	300/600	200/400	180/270	180/270	180/270	140/220	106/155	80/120
混合功率 Mixing power (kw)	1.5/2.2	4/5.5	6.5/8	9/11	9/11	13/16	18.5/22	22/30
切割速度Cutting speed (r.p.m)	1500/3000	1500/3000	1500/3000	1500/3000	1500/3000	1500/3000	1500/3000	1500/3000
切割功率Cutting power (kw)	0.85/1.1	1.3/1.8	2.4/3	4.5/5.5	4.5/5.5	4.5/5.5	6.5/8	9/11
压缩空气耗量 Amount of compressed air(m³/min)	0.6	0.6	0.9	0.9	0.9	1.1	1.5	1.8

平面布置图 Drawing of layout



外形尺寸 Overall dimensions



型号Type	A	B	C×D	E	F
10	270	750	1000×650	745	1350
50	320	950	1250×800	970	1650
150	420	1000	1350×800	1050	1750
200	500	1100	1650×940	1450	2050
250	500	1160	1650×940	1400	2260
300	550	1200	1700×1000	1400	2310
400	670	1300	1860×1100	1550	2410
600	750	1500	2000×1230	1750	2610

应用 Applications

- 医药：压片颗粒、胶囊填充颗粒等
- 食品：食品制造用颗粒、调味颗粒等
- 塑料：各种塑料成型颗粒
- 化工：催化剂、颜料、洗涤剂颗粒等
- Pharmacy:grains for pressed pill, and for capsule filling grains and etc.
- Food:grains for food manufacturing, for seasoning.
- Plastics:various plastics shaping grains.
- Chemical:catalyst, color, detergent and other grains.

特点 Features

- 干粉颗粒密度均匀，崩解度好，成料率高。
- 特殊的送料结构，保证有效送料。
- 轧混水循环冷却，保证不会出现物料粘辊现象。
- 不需要水或乙醇等润湿剂，不需要二次加热干燥，工序少，工效高，成本低。
- 采用先进的电动液压，操作简单可靠，自动化程度高。
- 密封操作无污染，满足药品卫生要求。
- 特别适用于湿法无法解决的物料造粒。
- The dry powder grain density is uniform .The disintegration is good .The grain making rate is high.
- The special material conveyor structure will ensure the effective material sending .
- The roll cool circulation will ensure that there is no phenomenon that the materials stick to the roll .
- It is not necessary to use the water ,alcohol and other wet agent .There is no need of twice heating and drying .The operation procedure is less .The machine is high in operation efficiency and low in the cost .
- The machine uses the advanced electric and hydraulic driving .it is simple and reliable in the operation and high in the automation grade.
- With the enclosed operation ,there is no pollution ,which meets the pharmacy health requirements
- The machine is especially suitable for the material grain making that can not be made by the wet method .

原理 Principles

- 利用物料中的结晶水，直接将粉料制成颗粒的新设备，结构合理，性能稳定可靠，清洗维修方便。
- 所制颗粒可压片剂、作冲剂、灌胶囊等。主要用于制药、食品、化工和其他行业造粒。特别适用于湿法无法解决的物料进行造粒。
- By using the crystallization water in the materials, the equipment can directly make the powder materials into the grains. It is a kind of new equipment. The structure is rational.
- The machine is stable and reliable in the performance and easy in maintenance .
- The grains to be made can be used for pressed pills ,instant soluble agent ,capsule and etc. The machine is mainly used for the grain making in pharmacy.food, chemical and other industries and it is suitable for the grain making for which the wet method can not settle it.

技术参数 Technical parameters

型号 spec	生产能力 capacity(kg/h)	料斗容积 hopper(L)	轧辊尺寸 roller size(mm)	轧辊最大预压力 max. roller prepressure(Mpa)	液压系统最大工作预压力 max. operation pressure of the (Mpa)	辊轮及送料速度调节形式 roller and material conveying speed
40	5-20	3	Φ120×40	6	8	变频调速 inverter control
80	20-60	3	Φ200×80	10	15	变频调速 inverter control
120	30-100	3	Φ200×120	10	15	变频调速 inverter control

概述 Descriptions

公司研制开发的干法辊压式造粒机组，采用当前国际流行的干法成型新技术。将密度小、流动差、易飞扬的粉状物料，通过压片、破碎、筛分等物理过程，制成符合标准的密度大、易流动、无粉尘的粒状产品。

本机组填补了国内空白。可根据用户要求和不同物料造粒需要提供各种规格的成套机组、单机及配件。为用户进行物料的造粒试验和进行特殊设计制造，为用户提供协助安装、负责调试等一系列周到服务。还可代用户进行物料加工。

This series of dry roll compacting granulator is first developed by our company, using an advanced dry granulating technique. Through the physical process of compressing, crushing and screening, powder materials of low density and poor fluidity will be made into granules of high density and good fluidity, meeting different standards without dust pollution.

This set of equipment has filled in the gaps of technology in our country. Now, according to different requirements and different materials , we can supply complete sets of equipment, single machine, or fittings of different specifications. Besides, we offer varieties of services such as granulating test for different materials, special designs, installation assistance, debug direction and so on. We can also granulate the materials for customers.

应用 Applications

- A.石油化工

B.精细化工

C.医药

D.食品

E.生物工程

F.农药

G.肥料

H.矿产

I.钢铁

J.煤炭
- A. Petrochemical industry

B. Fine chemical industry

C. Pharmaceutical industry

D. Foodstuff industry

E. Biochemical industry

F. Agricultural chemical industry

G. Fertilizer industry

H. Mining chemical industry

I. Iron and steel industry

J . Coal industry

技术参数 Technical parameters

型号 Model	辊间压力（吨） Pressure between the double rollers(ton)	产量 Output(Kg/h)	装机功率 Total power(Kw)
GZL-1	30	100	13.5
GZL-2	35	200	19.5
GZL-3	35	300	26
GZL-4	35	500	31.5
GZL-5	35	1000	37

(注：以上参数仅作参考，具体参数有待针对具体物料而定。)

(Notes: The figures above are for reference only . According to different materials to be granulated, the technical parameters may be different.)

GZL型造粒机和GZL-M型造粒机的区别如下：

A:GZL型造粒机从料仓加料后，物料会进入横向的螺旋挤压送料，轧辊是上下摆放的，螺旋正对上下两轧辊的中心，将料强制挤入轧辊之间。经过轧辊的挤压，成片状从轧辊的另一侧出来，进入破碎、整粒、过筛、包装过程。

B:GZL-M-x型造粒机从料仓加料后，物料直接进入一对横向摆放的轧辊之间，经过轧辊的挤压，从轧辊的下面出来片状物料，进入破碎、整粒、过筛、包装过程。

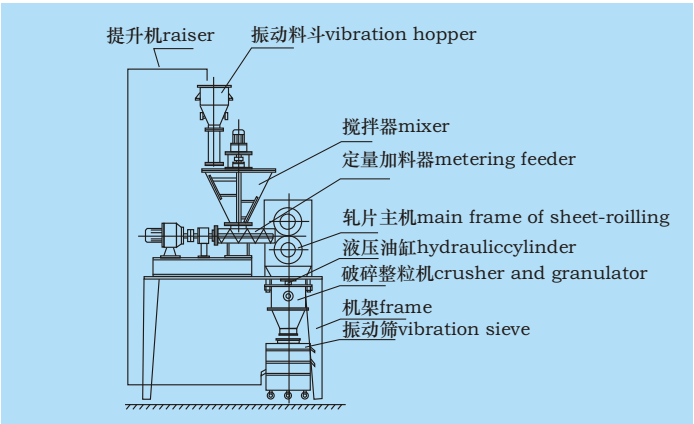
The difference between GZL series dry granulator and GZL-M series dry granulator is as follows:

A:GZL series: Dry powder materials are spirally pressed into the gaps between the double rollers , which are fixed vertically. Then the materials will come out in the form of slices from the other side of the double rollers before they are crushed,reorganized, screened and packed.

B:GZL-M series: Dry materials are directly fed into the gaps between the double rollers without being spirally pressed . The double rollers are fixed horizontally . Then the materials will come out as slices from under the double rollers before they are crushed, reorganized, screened and packed.



工艺原理图 Flow chart



应用 Applications

该机主要适用于医药、化工、食品等工业中制造各种规格的颗粒，烘干后供压制各种成型制品，该机亦可用于粉碎凝结成块状的干料。

物料接触处均采用不锈钢材料制作，外型美观大方，清洗方便，操作简单，能耗低等优点。

This machine is mainly suitable for pharmaceutical industry, chemical industry and foodstuff industry to make granule with different specifications. After it is dried through backing, then press it to form all kinds of shaped products. It can also be used for dry block raw material that is crushed and coagulated.

All parts in this machine are made of stainless steel. Its appearance is beauty. Its cleaning is very convenient. Its operation is very simple. Its energy consumption is very low.



技术参数 Technical parameters

型 号 Model	B 型 Model B	C 型(加重型) Model C (heavy type)	YK160-F-1200(非标型)
生产能力 (kg/h) Productive capacity	100-200	150-300	600-1200
电机功率 (kw) Power of motor	2.2	3	7.5
滚筒转速 (r/min) Revolution of roller	65	65	10-44
摇摆角度 (度) Swing angle	360°	360°	412°
滚筒直径 (mm) Diameter of roller	Φ160	Φ160	Φ160
外形尺寸 (mm) Overall dimensions	1150×680×1150	1260×750×1150	3100×930×1250
重量 (kg) Weight	300	450	2200

概述 Descriptions

本机用于制药、食品、冲剂、化工、固体饮料等行业，将搅拌好的物料制成所需颗粒，特别适用对粘性较高的物料。

本机凡与物料接触部份均采用不锈钢制造，外型美观，结构合理，制粒成型率高，颗粒美观，自动出料，避免人工出料造成的颗粒破损，并适合流水作业。

The machine is mainly suitable for pharmaceutical industry, foodstuff industry, chemical industry, solid drink industry and so on It can make the stirred raw material granulate the needed granule. Especially, it is suitable for raw materials that have sticky adhesive.

All parts contacted with raw material in this machine are made of stainless steel. Its appearance is beauty and taste and its structure is reasonable. Its efficiency is high and the granule is beauty. Its discharge is automatic. Therefore it can avoid the damaged conditions caused manual. It is suitable for in line production too.



技术参数 Technical parameters

碾刀尺寸 Size of milling knife (mm)	250	300B	30D
粒子直径 Diameter of graule (mm)	Φ2-2.2 (可根据用户需要It may be in accordance with the requirements of customers)	Φ1.2-3 (可根据用户需要It may be in accordance with the requirements of customers)	Φ0.5-6 (可根据用户需要It may be in accordance with the requirements of customers)
外型尺寸 Overall dimensions (mm)	700×540×1300	800×640×1300	1300×800×1200
电机功率 Power of motor (kw)	3	4	7.5~6
重量 Weight (kg)	350	400	780
生产能力 Production capacity (kg/h)	100~200	140~400	300~600

注：因物料差异，表中产量仅供参考。
Notes:because the raw materials existin difference,the output in the table isfor reference only.

概述 Descriptions

在固体与液体共存并以固体为主的分散体中，利用分散体的自粘性（或外加粘结性），通过强制方式（如挤压、重力、离心力、机械力、气流冲力等）使固体粉料基本微粒相互粘接、增大，并形成一定形状和粒度均匀、集中的颗粒群。湿法造粒成套装置主要由混合（捏和）、造粒、干燥及其辅助系统设备构成。粉料经混合（捏和）后，进入造粒机形成所需粒度的含湿产品，经干燥得到颗粒状成品，从而实现造粒的目的。

In the dispersed system of coexistent composition of solid power and liquid, besides with solid phase on the former, make use of the self cohesiveness of the dispersed system (or add binder) to make basic partials of solid powder bind each other and increase to form mass granule with uniform fair-size by means of exerting force) such as extruding force, gravity, centrifugal force, impulsive force, gravity, centrifugal force, mechanical force, impulsive force air flowed.

Complete sets of equipment for wet granulation mainly consist of equipment for mixing,granulating,dry in and auxiliary system. Powder material being mixed is delivered into granulator sideband then to get end granular product through drying ,thus achieving the goal of granulation.

技术参数 Technical parameters

型号 type	螺杆直径 screw dia	电机功率 power(kw)	转速 revolution (rpm)	外形尺寸 overall size L×D×H(mm)	设备重量 weight(kg)
SET-100	100	7.5	11~110	2000×500×1000	810
SET-140	140	15	11~110	1920×800×1430	810
SET-180	180	22	11~110	3000×870×880	810

原理 Principles

本机是通过设置旋转离心盘、鼓风机、气动喷枪，将湿颗粒制成美丽的球丸。将前道工序做成的湿颗粒投入旋转离心盘内，启动鼓风机后再将旋转离心盘启动，使湿颗粒受到环隙空气浮力、旋转离心力、自身重力作用，呈环周绳股状运动，从而形成真球度极高的球丸。

This machine makes damp granule into beautiful pellet by setting rotating centrifugal disk, blower, and pneumatic nozzle. Feed damp granule into rotating centrifugal disk, start fan then start rotating centrifugal disk. It can make the damp granule in float and circle by the air from gap, rotating centrifugal strength and itself gravity, appear circle rope-turning movement and become high-degree ball shape pellet.

技术参数 Technical parameters

规格spec	单位unit	Φ230	Φ400	Φ700	Φ1000
动力power	Kw	0.75	2.2	3.7	5.5
能力capacity	Kg/h	10~100	20~150	30~200	40~300



QZL Series Ball Granulating Machine

QZL系列球形制丸机





混合篇

MIXER ARTICLES



混合系列

EYH Series Two Dimensional Mixer
EYH系列二维运动混合机



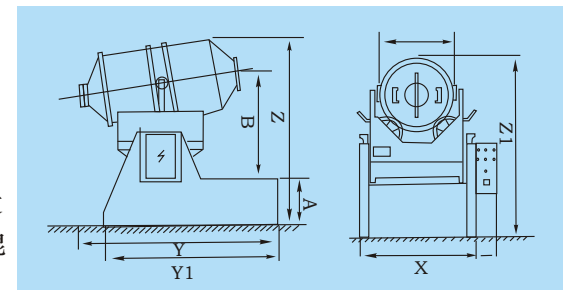
原理 Principles

二维混料机主要由转筒、摆动架、机架三大部分构成。转筒装在摆动架上，由四个滚轮支撑并由两个挡轮对其进行轴向定位。在四个支撑滚轮中，其中两个传动轮由转动动力系统拖动使转筒产生转动；摆动架由一组曲柄摆杆机构来驱动，曲柄摆杆机构装在机架上，摆动架由轴承组件支撑在机架上。

EYH Series Two Dimensional Mixer Principle Two dimensional mixer mainly consists of three big parts namely, rotating cylinder, swinging rack and frame. The rotating cylinder lies on the swinging rack, supported by four wheels and its axial fixation is done by two stop wheels. Two of our wheels are driven by rotating power system to made the cylinder rotate. The swinging rack is driven by a set of crankshaft swinging bar which is mounted on the frame and the swinging rack is supported on the frame.

特点 Features

EYH 二维混料机的转筒可同时进行二个运动，一个为转筒的自转，另一个为转筒随摆动架的摆动。被混合物料在转筒内随转筒转动、翻转、混和的同时，又随转筒的摆动而发生左右来回的掺混运动，在这两个运动的共同作用下，物料在短时间内得到充分的混合。EYH二维混料机适合所有粉、粒状物料的混合。



The rotating cylinder of EYH Two Dimensional Mixer can achieve two motions at the same time. One is the rotation of the cylinder and the other is swinging of the cylinder along the swinging rack. Materials to be mixed will be mixed from left to right and vice versa when the cylinder is swinging. As a result of these two motions, materials can be mixed fully in a short time. EYH Two Dimensional Mixer is suitable for mixing of all powder and granule materials.

技术参数 Technical parameters

型号 Type	料筒容积 Barrel volume (L)	装料容积 Loading capacity (L)	最大装料量 Max Loading weight (kg/批)	摆动、转动 次数 No. of swing & rotation (r/min)	电机总功率 Total motor power(kw)	外型尺寸 Overall dimensions X×Y×Z×Z ₁ (mm)	总重量 Total weight (kg)	料筒重量 Barrel weight (kg)
EYH-300	300	180	90	18/11	1.3	925×905×1480×1360	340	60
EYH-600	600	360	180	16/9	2.2	1145×1105×1750×1600	1150	140
EYH-800	800	480	240	10/6	3	1305×1255×1900×1790	1600	200
EYH-1000A	1000	600	300	8/6	3	1375×2255×1910×1770	1700	240
EYH-1500A	1500	900	450	9/5	4.4	1505×2445×2200×2100	2000	320
EYH-2000A	2000	1200	600	8.5/5	5.2	1635×2445×2255×2120	2600	430
EYH-3000A	3000	1800	900	7/4.5	7.0	1905×2755×2600×2420	3500	620
EYH-4000A	4000	2400	1200	7.8/5	9.5	2035×3205×2755×2550	4100	700
EYH-6000A	6000	3600	1800	7/4	13	2265×3805×3230×2960	6100	1100
EYH-8000A	8000	4800	2400	6.7/4.5	13	2555×4305×3680×3390	7900	1450
EYH-10000A	10000	6000	3000	6/4.2	18.5	2665×4355×3800×3420	10000	1700
EYH-12000A	12000	7200	3600	6/4	18.5	2765×4985×4120×3760	13000	2000
EYH-15000A	15000	9000	4500	6/4	22	3035×4855×4500×4150	15000	2500
EYH-20000A	20000	12000	6000	5/3.5	30	3295×5155×5000×4500	18000	3100



应用 Applications

- 本机为高效率混合设备，可用于制药、食品、化工、轻工机械、电子、矿冶、国防工业、科研等企事业单位的粉状、粒状物料的高均匀度混合。
- 物料在混合过程中无离心力作用，无比重偏析及分层，积聚现象，各组份可在悬殊的重量配比下均匀混合，混合率达99.9%以上。
- 装料系数高，可达到80%（普通混合机仅为40%左右）且混合时间短，是目前各种混合机中的一种较理想产品。
- 设备结构紧凑，传动采用无级调速（变频或电磁调速），操作十分方便。
- 料筒各处为圆弧过滤，并经过精密抛光处理，达到GMP要求。
- As a high efficient mixing equipment , this machine is used for highly uniform mixing of powdery and particle materials in such trades as pharmaceutical, food, chemical, light industry, machinery, electronics , mining and metallurgy, national defense industry and scientific research etc.
- Material has no centrifugal force effect, specific gravity segregation, lamination and accumulation during mixing. Each omponent can be mixed under wide gap of weight roportion, mixing rate reaching up to 99.9%.
- Loading coefficiency can reach 80%(40% for normal ones).
- With compact structure, driving part of the equipment is step less controlled, featuring convenient operation.
- Each part of drum is transited by arc and polished precisely, meeting the GMP requirements.



实验室专用混合机5L-20L

原理 Principles

混合料桶，通过二只Y型万向节悬装于主、从动轴端部，二只万向节在空间既交叉又互相垂直。当主动轴被拖动旋转时，万向节使料桶在空间周而复始地做平移、转动和翻滚等复合运动。物料则在筒体内跟着作轴向、径向和环向的三维复合运动。筒内的多种物料相互流动、扩散、掺杂，最后呈均匀状态。

Mixing barrel is suspended on ends of driving and driven axles through two Y type universal joints that are crossing and vertical to each other in the space. When driving axle is driven to rotate, universal joint makes the barrel perform composite motion including horizontal moving, rotating and turning etc, in the space, by which, materials also performs 3-dimensional motion inside the barrel. Several kinds of materials inside the barrel flow, diffuse, penetrate each other and finally form uniform status.

技术参数 Technical parameters

型 号 type	SYH-5	SYH-100	SYH-200	SYH-400	SYH-600	SYH-800	SYH-1000	SYH-1500
混合桶容积 Material barrel volume (L)	5	100	200	400	600	800	1000	1500
最大装载容积 Max loading volume (L)	4	80	150	300	450	600	750	1200
最大装载重量 Max loading weight (kg)	5	80	150	200	300	400	500	750
主轴转速 Spindle rotation speed (r/min)	24	15	12	10	10	10	10	10
电机功率 Motor power (kw)	0.37	2.2	3	4	5.5	7.5	11	11
外型尺寸 Overall dimensions (mm)	600×1000×1000	1200×1800×1500	1300×1600×1500	1500×2200×1500	1850×2500×1650	1900×2400×2100	1950×2500×2400	2600×2500×2350
重量 Weight (kg)	150	500	750	1200	1500	1650	1800	2500

特点 Features

本机将粉末或粒状物料通过真空输送或人工加料到双锥容器中，随着容量的不断旋转，物料在容器中进行复杂的撞击运动，达到均匀的混合。

本机节约能源、操作方便、劳动强度低、工作效率较高。

Through the vacuum conveyor for the machine, send the powder or grain state materials into the double-taper container, or send the materials into the container manually.

As the container rotates continuously, the materials moves complexly in the container so as to get the uniform mixing.

技术参数 Technical parameters

型 号 Model	全容积 Total volume (m³)	生产能力 Productive capacity (kg/批)	混合时间 Mixing time (min)	筒体转速 Revolution of cylinder (rpm)	功率 Power (kw)	外形尺寸 Overall dimension(mm)	回转总高度 Rotation height (mm)	重量 Weight (kg)
180	0.18	40	4-8	12	1.1	1400×800×1850	1850	280
300	0.3	60	6-10	12	1.1	1685×800×1850	1850	310
500	0.5	100	6-10	12	2.2	1910×800×1940	1950	550
1000	1.0	200	6-10	12	4	2765×1500×2370	2460	810
1500	1.5	300	6-10	12	4	2960×1500×2480	2540	980
2000	2.0	400	6-10	12	7.5	3160×1900×3500	3590	1500
2500	2.5	500	6-10	12	7.5	3386×1900×3560	3650	2150
3000	3.0	600	6-10	7.8	7.5	4450×2200×3600	3700	2500
4000	4.0	800	6-10	7.8	11	4750×2500×3680	3730	3200



CH Series Notch Shape Mixer
CH系列槽形混合机

概述 Descriptions

用于混合粉状或湿性物料，使不同比例主辅料混合均匀。本机与物料接触处均采用不锈钢制造，浆叶与桶身间隙小，混合无死角，搅拌轴两端设有密封装置，能防止物料外泻，料斗采用按钮点动控制，出料方便。广泛适用于制药、化工、食品等行业。

型号 Type	全容积 Total volume (m³)	投料量 Feed amount (kg/批)	外形尺寸 Overall dimension (mm)	搅拌转速 stirring speed (rpm)	混合电机功率 power formixing (kw)	卸料电机功率 Power for discharge (kw)
150	0.15	30	1480×1190×600	24	3	0.55
200	0.2	40	1480×1200×600	24	4	0.55
300	0.3	60	1820×1240×680	24	4	1.5
500	0.5	120	2000×1240×720	20	5.5	2.2
750	0.75	150	2300×1260×800	19	7.5	2.2
1000	1.0	270	2500×1300×860	19	7.5	3
1500	1.5	400	2600×1400×940	14	11	3
2000	2	550	3000×1500×1160	12	11	4
2500	2.5	630	3500×1620×1250	12	15	5.5
3000	3	750	3800×1780×1500	10	18.5	5.5



应用 Applications

HF系列方锥型混合机是一种广泛应用于制药、化工、冶金、食品、轻工、饲料等行业的新颖物料混合机。该机能非常均匀地混合粉体或颗粒，使混合后的物料达到最佳效果。

HF series square conical mixer is a widely used pharmaceutical, chemical, metallurgy, food, light industry, new materials and other industries feed mixer. The machine can be very evenly mixed powders or granules, so that the mixture of materials to achieve the best results.



原理 Principles

将物料装入方锥形密闭混合桶内，料斗对称的轴线与回转轴轴线成一夹角，不同组分物料在密闭的料斗中进行三维空间运动，产生强烈翻转和扩散收缩作用，达到最佳的混合效果。

The material into square taper sealed mixing barrel, hopper and rotary axis of symmetry axis into an angle, different components of the material in the hopper in a confined three-dimensional space motion, produced a strong contraction of flip and diffusion, the best mixed results.

特点 Features

- 整机设计新颖、结构紧凑、外形美观、混合均匀度达99%，体积装料系数达0.8。
- 回转高度低、运转平稳，性能可靠，操作方便。
- 桶体内外壁均经镜面抛光，无死角、易出料、易清洗，无交叉污染，符合GMP要求。
- New machine design, compact structure, beautiful appearance, degree of homogeneity of 99%, volume loading coefficient of 0.8.
- Rotary high low, smooth operation, reliable performance, easy to operate.
- Barrel outer wall of the body are mirror polished, no dead corner, easy to discharge, easy to clean, no cross-contamination to meet GMP requirements.

技术参数 Technical parameters

型号 参数	HF-300	HF-500	HF-1000	HF-1500	HF-2000	HF-3000
混合桶容积(L)	300	500	1000	1500	2000	3000
最大装料容积(L)	240	400	800	1200	1600	2400
最大装料重量(Kg)	150	250	500	750	1000	1500
主轴转速(rpm)	14	13	12	10	10	8
电机功率 (Kw)	1.5	2.2	4	5.5	7.5	11
整机重量(Kg)	600	750	1200	1650	2000	3000
外形尺寸(动态)	1850×1280	2200×1530	2800×2000	2930×2330	3300×2550	3800×3000
长×宽×高(mm)	×1980	×2220	×2820	×3355	×3280	×3800

概述 Descriptions

由螺旋的公、自转使物料在锥体内产生复合运动，主要产生四种运动形式：

1. 螺旋沿壁公转，使物料沿锥壁作圆周运动；
2. 螺旋自转使物料自锥底沿螺旋上升；
3. 螺旋的公、自转复合运动使一部分物料被吸收到螺旋圆柱面内同时受螺旋自转的离心力作用使螺旋圆柱面内的一部分物料向锥体径向排放；
4. 上升的物料受自身重力作用下降。四种运动在混合机内产生对流、剪切、扩散、从而达到快速均匀混合的目的。

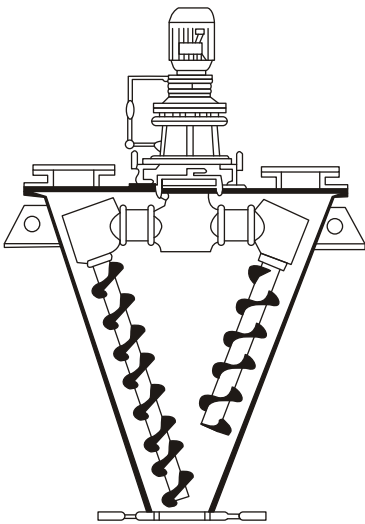
The material is made to conduct a compound motion in the cone because of the rotation and revolution of the screws. The effected motions include:

1. The revolution of the screw along the wall making the material conduct a circumferential motion;
2. The rotation of the screw making the material rise along the screw from the cone bottom;
3. The compound motion of the rotation and revolution of the screws making partial, material be absorbed into the screw cylindroid meanwhile, under the action of centrifugal force, the partial material in the screw cylindroid discharges radially.
4. The rised material drops under its sole weight. The four kinds of motions effect convection, shearing, diffusion in the cone , thus quick and even mixing can be achieved.



特点 Features

- 可加装飞刀，喷淋雾化装配，满足特殊工艺要求。
- 出料阀有手动、气动两种方式。
- 特殊物料可加大电机功率（加重型）。
- This model of machine can be equipped with single screw , double screws, tri-screws.
- It can be equipped with flying-entter additionally, so as to meet the requivements for special technology.
- The discharge valve adopts two ways , one is manual or the other is pneumatical.
- The power of motor can be enlarged for special material(strengthening type).



应用 Applications

应用于化工、医药、农药、染料、石油、冶金、建材等粉体与粉体(固-固)，粉体与液体(固-液)，液体与液体(液-液)混合、反应、干燥、冷却。

It is suitable for chemical industry, pharmaceutical industry pesticide, dyestuff , petroleum industry, metallurgical industry, construction material and etc . Such as in the mixing, reaction, drying, cooling of powder and powder(solid-solid), powder and liguid (solid-liguid), liguid and liguid (liguid-liguid).



DSH Series Double-screw Conical Mixer
DSH系列锥形双螺杆螺旋混合机

混合系列



混合系列

ZKH(V) Series Mixer
ZKH(V)系列混合机



技术参数 Technical parameters

型 号 type	全容积 Total volume (m³)	装载系数 Load factor	装机功率 Equipped power Kw	操作条件 Operating conditions	外形尺寸 Overall dimension(mm)	重量 Weight (kg)
DSH-0.1	0.1	≤0.6	1.5	常温常压粉尘密封	1569 φ702	250
DSH-0.3	0.3	≤0.6	2.2	常温常压粉尘密封	1929 φ920	550
DSH-0.5	0.5	≤0.6	3	常温常压粉尘密封	2322 φ1124	660
DSH-1.0	1.0	≤0.6	4	常温常压粉尘密封	2869 φ1480	1200
DSH-1.5	1.5	≤0.6	5.5	常温常压粉尘密封	3140 φ1633	1350
DSH-2.0	2.0	≤0.6	5.5	常温常压粉尘密封	3489 φ1816	1500
DSH-3.0	3.0	≤0.6	7.5	常温常压粉尘密封	3747 φ2210	2300
DSH-4.0	4.0	≤0.6	11	常温常压粉尘密封	4362 φ2280	2520
DSH-5.0	5.0	≤0.6	15	常温常压粉尘密封	4576 φ2402	3000
DSH-6.0	6.0	≤0.6	15	常温常压粉尘密封	4900 φ2582	3150
DSH-8.0	8.0	≤0.6	18.5	常温常压粉尘密封	5405 φ2805	4500
DSH-10	10	≤0.6	20.7	常温常压粉尘密封	5795 φ3018	5500
DSH-15	15	≤0.6	24.2	常温常压粉尘密封	6475 φ3450	6600
DSH-20	20	≤0.6	41	常温常压粉尘密封	7535 φ3805	7000
DSH-25	25	≤0.6	41	常温常压粉尘密封	7995 φ4078	8500
DSH-30	30	≤0.6	52.5	常温常压粉尘密封	8385 φ4330	9200



DSH Series Double-screw Conical Mixer
DSH系列锥形螺杆螺带混合机

概述 Descriptions

由摆线针轮减速机连接中心螺杆及外层螺带以相同转速转动。工作时，中心螺杆将混合物料由底部提升到顶部，同时线速度较大的外部螺带将物料由下而上沿锥形筒壁盘提升，二种运动在离心力作用下又将物料沿切线方向抛向空间，物料产生强烈的对流剪切、扩散，从而达到快速混合的目的。(螺杆也可做成反向螺杆)。

The central screw and the outer ribbon are connected to the cycloidal needle wheel reducer, and rotate at an identical revolution. In operation, the central. In operation, the central screw lifts the material from bottom to top. mean while, the ribbon with a higher linear velocity spirals to lift the material from bottom to top along the cone wall. The two kinds of motions make the material be thrown into the space tangentially. and the material effects strong convection shearing and diffusion, thus a quick mixing effect is achieved. (the screw can also be made to a reverse one).



技术参数 Technical parameters

型 号 type	全容积 Total volume (m³)	装载系数 Load factor	装机功率 Equipped power Kw	操作条件 Operating conditions	外形尺寸 Overall dimension(mm)	重量 Weight (kg)
DSH-0.3	0.3	≤0.6	2.2	常温常压粉尘密封	1929φ920	320
DSH-0.5	0.5	≤0.6	4	常温常压粉尘密封	2322φ1124	410
DSH-1.0	1.0	≤0.6	7.5	常温常压粉尘密封	2869φ1480	900
DSH-1.5	1.5	≤0.6	11	常温常压粉尘密封	3140φ1633	1200
DSH-2.0	2.0	≤0.6	11	常温常压粉尘密封	3489φ1900	1300

特点 Features

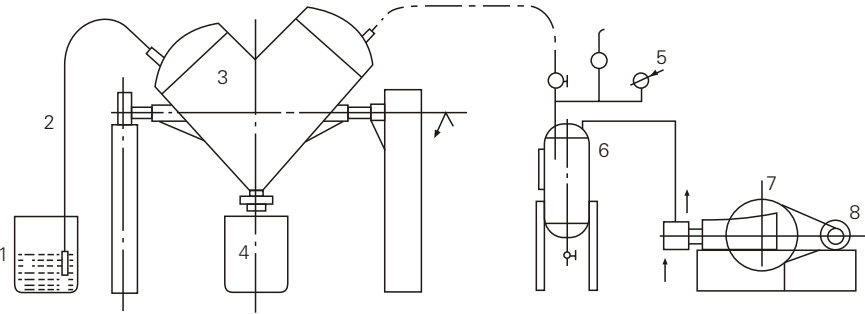
混合筒结构独特、混合效率高、无死角、筒体用不锈钢材料制作，内外壁抛光处理，外形美观，混合均匀，用途广泛。符合GMP标准。

The structure of mixing barrel is unique. The mixing barrel is unique. The barrel is made of stainless steel and its internal walls are polished. The outside appearance is beautiful. The mixing is uniform, with wide application, meets GMP standard.

应用 Applications

本机适用于医药，化工，食品、冶金等工业上的干物料颗粒混合。

The mixer is used for mixing the dry material grains inmedical, chemical, food, metallurgical and other industries.



- 1.物料筒 Cylinder of raw material
- 2.吸料筒 Cylinder of sucked raw material
- 3.混合机 Mixer
- 4.出料筒 Cylinder of discharged raw material
- 5.真空表 Vacuum meter
- 6.气体净化罐 Tank of air purification
- 7.真空泵 Vacuum pump
- 8.电动机 Motor

技术参数 Technical parameters

项目item 规格spec	总容积 Total volume L	工作容积 Working capacity L	投料量 Working capacity kg	投料转速 Rotating speed rpm	动力 Power km	回转高度 High	重量 Weight kg
0.05/180	50	25	15	25	0.55/1.1×2	1380	400
0.15/300	150	75	45	22	0.75/1.1×2.2	1600	500
0.3/5000	300	150	90	20	1.1/1.1×2.2	2160	700
0.5/1000	500	250	150	18	1.5/3×2.2	2360	1000
1	1000	500	300	15	3	2600	1500
1.5	1500	750	450	15	4	2800	1800
2	2000	1000	600	14	5.5	2900	2000
3	3000	1500	900	13	5.5	3200	2100
4	4000	2000	1200	11	7.5	4000	2300
5	5000	2500	1500	8	7.5	4500	2500
6	6000	3000	1800	6	11	5000	3000
8	8000	4000	2400	5	15	5600	3800
10	10000	5000	3000	4	18.5	5900	4300



概述 Descriptions

该机型由容器、螺旋搅拌叶片和传动部件组成；螺旋叶片一般做成双层或三层,外层螺旋将物料从两侧向中央汇集，内层螺旋将物料从中央向两侧输送，形成对流混合。容积可做成圆形，以便夹套用于反应、干燥。

This machine is composed of container, screw stirring paddles and transitional parts; the screw paddle are generally made into 1 layer or 3 layers, the outer screw converge is the material to the centre front two sides, and the inner layer of screw conveys the material to the two sides from the centre, so as to form convection mixing. The cubage can be made into rotundity, so the jacket can be played in reaction and drying.

特点 Features

装载系数大、设备占地面积小。

Big coefficient of loading, small occupied area.

应用 Applications

螺带混合机一般用于粘性或有凝聚性的粉粒体的混合以及粉粒体中添加液体及糊状物料的混合，同时由于粘性物料清洗困难的特点，适用于产量大、不经常更换品种的场所混合。

The ribbon mixer is generally used in the mixing of viscous or adhesive powder material, or the mixing of powder which needs to add liquid, and paste material. Meanwhile, because it is difficult to clean viscous material, the machine is suitable for the mixing case, where the output is large and there is no need of displacing material variety frequently.

技术参数 Technical parameters

型号规格 Model & Specs m ³	WLDH-0.1	WLDH-0.3	WLDH-0.5	WLDH-1	WLDH-1.5	WLDH-2	WLDH-3	WLDH-4	WLDH-6	WLDH-8	WLDH-10
一次混合 Mixed a mount/batch Kg	30-50	100-150	200-300	400-600	600-900	800-1200	1200-1800	1600-2400	2400-3600	3200-4800	4000-6000
装机功率 Equipped power Kw	1.5-4	3-5.5	4-11	7.5-15	11-18.5	15-22	18.5-30	22-37	37-55	37-55	45-75
设备重量 Dead Weight Kg	420	850	1060	1790	1900	2750	3500	4280	5300	6800	7800

上述产品按客户要求由A₃钢或不锈钢制造。
The above-mentioned products can be made in A₃ steel or stainless steel acc. To customer' s requirements.

概述 Descriptions

本系列混合机以强烈、高效混合为特点，卧式筒体内两根搅拌轴等速反向旋转，轴上特殊布置的桨叶确保物料径向，环向，轴向三向运动，形成复合循环，在极短的时间内达到均匀混合。

This series machine takes a strong and high effective mixing as its features. The two mixing axles rotate reversely at an identical revolution in the horizontal drum body. The paddles specially distributed on the axle ensure that the material move radically, circulatingly, and axially, so as to form a compound motion, and in an extremely short time, the material is mixed evenly.

特点 Features

- 混合精度高、速度快、能耗低、可密封操作。
- 气动、电动、手动出料方式。
- 筒盖上可布置雾化装置以实现固液混合。
- The equipment can run in an enclosure, with highprecision, high speed, low energy consumption.
- Pneumatical, electrical and manual discharging metod.
- The atomizing device can be distributed on the cylinder cover to realize the solid-liquid mixing.

应用 Applications

化学药品、洗涤剂、涂料、树脂、玻璃硅、颜料、农药、化肥、饲料、饲料添加剂、小麦粉、奶粉、香料、微量成份、咖啡、味精、食盐、添加剂、塑料及各种浆料、粉料的干燥与混合。

It is suitable for the drying and mixing of the following materials: chemicals、 detergent、 fertilizer、 feedstuff、 feedstuff additive wheat flout、 milk powder、 perfume、 micro ingredient、 coffee、 gourmet power、 salt、 plastic and all kinds of pulp、 powder material.

技术参数 Technical parameters

型号规格 Model & Specs(m ³)	WZ-0.1	WZ-0.3	WZ-0.5	WZ-1	WZ-2	WZ-3	WZ-4	WZ-6
一次混合 Mixed amount/batch(kg)	40~60	120~180	200~300	400~600	800~1200	1200~1800	1600~2400	2400~3600
装机功率 Equipped power(kw)	3	4~5.5	5.5~7.5	7.5~15	15~18.5	18.5~22	22~30	30~37
设备重量 Dead Weight(kg)	440	970	1080	2100	2740	3800	5100	6600

上述产品按客户要求由A₃钢或不锈钢制造。
The above-mentioned products can be made in A₃ steel or stainless steel acc. To customer's requirements.





ZSL-III Serial Vacuum Feeder ZSL-III系列真空上料机



This machine is composed of transmission apparatus, horizontal cylinder, colter flying cutter; under the action of colter, the material conducts a turbulent flow circumferentially along the cylinder wall, and the materials is thrown and sprinkled by the rotating flying-cutter at a high speed when it flows through the flying cutter, thus the material is mixed evenly in a shorter time.



特点 Features

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应用 Applications

It is suitable for the mixing of solid-solid (powder and powder), solid-liquid (adding a small amount of liquid into the powder) and some compound technology. Process such as granulating wet particle and drying, especially it is suitable for the mixing of viscous material or glue-like additive.

技术参数 Technical parameters

型号规格 Model & Specs(m³)	LDH-0.1	LDH-0.3	LDH-0.5	LDH-1	LDH-2	LDH-4	LDH-6	LDH-8	LDH-10	LDH-12	LDH-15
一次混合 Mixed amount/batch(kg)	40-60	120-180	200-300	400-600	800-1200	1600-2400	2400-3600	3200-4800	4000-6000	4800-7200	6000-9000
装机功率 Equipped power(kw)	6	8.4	9.9	23	30.5	38	38	46	53	65	82.5
设备重量 Dead Weight(kg)	430	950	1100	1800	2520	3220	6750	7200	7500	8500	9200

67 | MIXER SERIES

概述 Descriptions

Model ZSIII serial vacuum feeder is a third-generation new-type vacuum feeder recently developed by our company. it has advantages of fast feeding, long service period, simple operation, clean and in conformity with requirement.

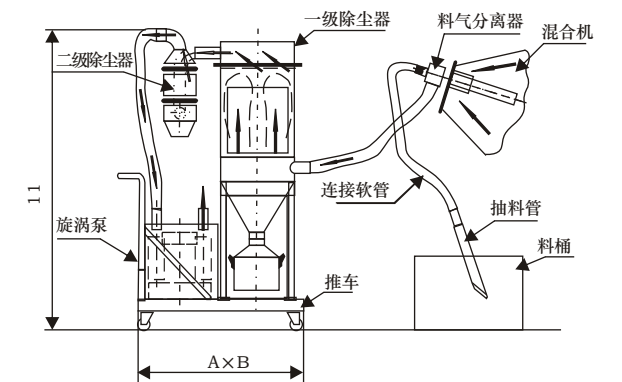


应用 Applications

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特点 Features

- 工艺流程 Flow chart



技术参数 Technical parameters

参数 Data \ 型号 Model	ZSL-Ⅲ-2.2	ZSL-Ⅲ-3.0	ZSL-Ⅲ-4.0	ZSL-Ⅲ-5.5	ZSL-Ⅲ-7.5
工作压力 Working Pressure(kpa)	<18	<20	<22	<28	<31
风量 Air Volume(m³/h)	210	300	330	370	480
功率 Power(kw)	2.2	3.0	4.0	5.5	7.5
输送能力 Transporting Capacity(kg/h)	900-1200	1200-1500	1500-1800	1800-2100	2100-2400



粉碎篇

GRINDING ARTICLES



粉碎系列

Model CSJ Series Roughness Grinder
CSJ系列粗碎机



应用 Applications

本机适用于制药、化工、冶金、食品、建筑等行业。对坚硬难粉碎的物料进行加工，包括对塑料、铜丝、中草药橡胶等进行粉碎，也能作为微粉碎机、超微粉碎机加工前道工序的配套设备。

This machine is suitable for many industries such as pharmaceutical industry, chemical industry, metallurgy industry, foodstuff industry, architecture industry and so on to crush hard raw materials including plastics, steel wire, Chinese herbal medicine, rubber and so on. It can also be as complete equipment of ring grinder and super fine grinder as the first procedure.



特点 Features

该机是采用立式粉碎机构，不受物料粘度、硬度、软度等的限制，对任何物料都能起到粉碎作用。

This machine adapts vertical crushing mechanism. It can not be limited by viscosity, hardness and softness of raw materials. It has good crushing effect to all kinds of raw materials.

技术参数 Technical parameters

型号 type	进料粒度 (mm) inlet material diameter	出料颗粒 (mm) output diameter	产量 (kg/h) output	功率 (kw) power	主轴转速 (rpm) speed of shaft	外型尺寸 (mm) overall dimension
CSJ-250	≤100	0.5~20	50~300	4	940	860×650×1020
CSJ-500	≤100	0.5~20	80~800	11	1000	1120×1060×1050



30B High Effect Grinding Machine(set) 30B型高效粉碎机（组）



概述 Descriptions

本机（组）适用于医药、化工、食品、农药等行业脆性物料的粉碎，用途极为广泛。

The machine(set) is extensively used in pharmaceutical, chemical food and pesticide industries for pulverizing dry brittle materials.



技术参数 Technical parameters

型号 Model	20B/20B机组(set)	30B/30B机组(set)	40B/40B机组(set)	60B/60B机组(set)
生产能力 Productive capacity (kg/h)	60~150	100~300	160~800	500~1500
主轴转速 Revolution of spindle (r/min)	4500	3800	3400	2800
进料粒度 Size of fed material (mm)	6	10	12	15
粉碎细度(目)Grinding size (mesh)	60~120	60~120	60~120	60~120
电机功率 Power of motor (kw)	4	5.5	11	15
吸尘风机功率 Fan power(kw)	0.55	0.75	1.1	2.2
重量Weight(kg)	250	320	550	680

注：因物料差异及要求目数不同，表中产量仅供参考。
Notes: the outputs in list are only for reference, due to the differences of material and the wanted sizes.



特点 Features

- 工作时发热小，粉尘少。
- 定子筛网由不锈钢板加工而成，不易损坏。
- 粉碎刀与筛网间隙可调。
- 可处理粘性，树胶状、热敏性和湿润物料。
- There is less heat and dust in work.
- The fixed screen is made from stainless steel and it can not damage easy.
- The gap between crush knives and screen can be adjusted.
- It can treat adhesive, glue, hot and wet raw materials.



应用 Applications

- 本机适用于中西药、食品、化工颜料及饲料等行业中颗粒的破碎及整理。
- 经各种造粒工艺及设备所得到的颗粒形状及规格各异。将造粒后的颗粒经本机高速旋转的刀片组合切割后，经网板排出，便可得到形状及规格基本一致的颗粒。
- 本机全部零件均采用不锈钢制造，表面抛光，装拆与清洗十分方便。
- This machine is suitable for crushing and processing granule of Chinese traditional medicine. Western medicine, foodstuff, chemicals, pigments, feedstuff and so on.
- The specifications and shapes of granule made by all kinds of granulating process and different granulator are different. The granule with basic similar shape and specification can be got when the granulated granule is cut by knives with high speed in this machine.
- All parts in this machine are made of stainless steel. Its assembling and disassembling and cleaning are very convenient.

技术参数 Technical parameters

型号	100	180	300
定子直径(mm)	100	180	300
定子长度(mm)	98	178	298
生产能力(kw)	20-150	100-1500	200-2500
功率(kw)	1.1	1.5	3
转速(rpm)	180-1400	175-1400	200-1400

应用 Applications

该机具有技术性能稳定、产量高、外形美观。适用范围广等特点。本机对于粉碎干燥纤维性物料具有较理想的效果。与国内其他机型相比，制品温度低，粒度均匀，特别适用于食糖、塑料粉末、中药等热敏性物料的粉碎。

The machine has stable technical performance, high production capacity and beautiful. It has large of application. It can get very ideal result to pulverize the drying fibre material. It is suitable for heat sensitivity materials such as sugar, plastic powder and



技术参数 Technical parameters

型号 (model)	30B
主轴转速 (main shaft speed)	5300转/分 (rpm)
主机电机功率 (main motor power)	7.5千瓦 (kw)
关风机电机功率 (closing fan motor power)	0.37千瓦 (kw)
引风机电机功率 (draught fan motor power)	1.1千瓦 (kw)
进料粒度 (feed grain degree)	10-40mm
粉碎细度 (pulverizing fineness)	60-220目 (任意可调) - (eye will) 常规使用
粉碎能力 (pulverizing capacity)	50-250公斤/小时 (kg/h)
主机温升 (main engine temperature rising)	≤65℃ (degree)



GFS High Speed Grinder
GFS高效粉碎机

概述 Descriptions

本机采用混合喷粉法原理设计研制而成，适用制药、食品、化工等行业，用途极为广泛。

本机具有移动方便，运转平衡、噪音低、粉碎效果好和电耗低的优点。

This machine adapts the principle of mixing and spraying powder to design and manufacture I has wide application and wide used for pharmaceutical industry, foodstuff industry, chemical industry and so on. This machine has many advantages such as movement of machine is very convenient and its operation is smooth and its noise low and its crushed effect is god and consumption is low.

技术参数 Technical parameters

机型 Model	8	16	28
电机功率 Power of motor (kw)	3	7.5	11
生产能力 Productive capacity (kg/h)	10~100	50~300	100~500
转速 Revolution (rpm)	4000	4000	4000
成品细度(含量≥85%) Degree of fineness(content≥85%)	12~120mesh	12~120mesh	12~120mesh
外形尺寸(A型) Overall dimensions (L×W×H), Model A (mm)	800×550×1250	900×660×1350	1000×750×1665
重量Weight(kg)	150	250	350



应用 Applications

该种系列微粉碎机由主机、辅机、电控三个部分组成，设计紧凑，结构合理，具有风选式，无筛无网。机内装有分级机构，能使粉碎，分级一次完成。负压输送使粉碎作业时机腔内产生的热量源源不断地排出，故也适应于热敏性物料的粉碎。本机适应范围广，生产过程连续进行，出料粒度可调；能处理如：化学制品、食品、药品、化妆品、染料、树脂、壳物等多种物料的粉碎及分级。

Model CWFJ series super fine grinder consists of three parts i.e. main machine, auxiliary machine and electric control. Its features are compact in design, reasonable in structure. Its principle is using air to chose and no sieve or screen .Being installed grading mechanism inside the machine, the crushing and grading can be finished at the same time. When use negative pressure to transport in the operation of crushing, the heat produced from the chamber will be removed continuously. Therefore it can also be suitable for crushing thermal sensitive raw materials. The scope of application of machine is wide. Its productive process is continuous and its size of granule can be adjusted. It can crush and grade many raw materials such as chemicals, foodstuff, medicines, cosmetic, dyestuff, resin, shell materials and so on.



技术参数 Technical parameters

规格型号 Specification and model	CWFJ-15	CWFJ-18	CWFJ-36	CWFJ-60
生产能力 Productive capacit (kg/h)	10~200	20~450	60~1000	100~1500
进料粒径 Size of raw material to be fed(mm)	<10	<12	<15	<18
出料粒度(目) Size of raw material to be discharged (mesh)	80~320	80~450	80~450	80~450
总功率 Total power (kw)	13.7	19.07	38.85	65.2
主转速 main revolution (r/min)	4500	4480	4000	4000
外型尺寸 Overall dimensions (L×W×H) (mm)	5410×1660×2500	5500×1800×3100	9000×2200×4000	9000×2700×5280



辅助篇
AUXILIARY ARTICLES





应用 Applications

该炉为通用性热风装置，与各种物料的干燥设备配套使用。广泛用于粮食、种子、饲料、果品、脱水蔬菜、香菇、木耳、银耳、茶叶、烟叶等农产品、食品、医药品、化工原料、轻重工业产品的加热除湿，还可用于各种设施的加热以及库房除湿等。

The furnace is the versatile hot air equipment.It is used with other equipment for drying various materials. The furnace is widely used for the heating and moisture removing for the grain, seed, feed, fruit , dewatering vegetable, mushroom,edible fungus, tremella, tea, tobacco leaf, other farming products, food, medicine,chemical raw material, light and heavy industry products.

原理 Principles

该炉集燃烧与换热为一体以炉体高温部位进行换热的最新间接加热技术，烟和空气各行其道，加热绝对无污染，热效率高达(60-75%)，升温快，体积小，安装方便，使用可靠，且价格低(与一吨锅炉相比，该加热系统只相当于锅炉加热系统价格的一半)。

The furnace combines the combustion with the heat exchange,using the latest indirect heating technology that the heat exchange is taken place at the positionof the high temperature in the furnace. The smoke and the air go into the different channels, without any pollution for the heating. The heat efficiency rate is high(up to 60-75%).The temperature increase is fast. The furn ace is small in size, easy in the installation,reliable in the operation and low in the price (making a comparison with one ton boiler, the price of this System is only half price of the heating system for the boiler.)

特点 Features

采取了耐高温措施，从而使其寿命比列管式热风炉大大延长，并采用烟气纵向冲刷散热片和负压式排烟方式，换热部位不积灰尘，无须清理，热性能稳定。可用各种煤或柴作燃料，并配有二次进风装置燃烧完全，该炉的各项技术均达到了国内领先水平。

The furnace uses the high temperature resistant method so that its life is much longer than the life of the pipe arrangement hot air furnace. The furnace uses the smoke and air longitudinal splashing heat radiation sheets and the negative pressure smoke elimination mode. There is no dust collected on the heat exchange position. There is no need to carry out the cleaning.The heat feature is stable. Various coal and wood can be used as the fuel.The furnace is equipped with the air leading device and the combustion is complete.All the technical and economic indexes of the furnace have reached the advanced level at home.

技术参数 Technical parameters

技术参数 technical parameter 型号规格 type	输出热量 air output ×10 ⁴ Kcal/h	输出风量 hot air temperature (m ³ /h)	热风温度 coal consumption smoke and air(°C)	耗煤量 leading blower blower for(kg/h)	烟气引风机型号 coking blower for coking
JRF4-2.5	2.5~3	560~1500	60~200	10~12	炊事用鼓风机 80~100w
JRF4-4	4~5	930~3500	60~200	14~17	炊事用鼓风机 200~300
JRF5-8	6~8	1480~5600	60~200	18~24	Y5-47 2.8C
JRF5-15	10~15	2160~12000	60~300	30~45	Y5-47 4C 2000r.p.m 1.5kw
JRF5-30	25~30	4330~25000	60~300	70~85	Y5-47 4C 2520r.p.m 2.2kw
JRF5-60	55~60	8660~45000	60~300	150~175	Y5-47 4C 2900r.p.m 3kw
JRF5-100	80~100	14000~84000	60~300	220~290	Y9-26 9D 左 (left) 45° 1450r.p.m 18.5kw
JRF5-160	150~160	23000~134400	60~300	410~460	Y9-26 9D 左 (left) 45° 1450r.p.m 18.5kw



原理 Principles

燃料通过燃烧器燃烧，产生高温燃气。并借助具有强化换热措施的热风炉将高温燃气的热量传导给被加热的空气，高温燃气经热量散发后温度降低至250℃后排出大气中。需加热的空气通过选配的鼓风机强制送入热风炉，吸热后，温度升温至额定值从热风出口送出。当热风温度达到额定的上限温度时，燃烧器会自动停止燃烧或自动转为小火燃烧，当热风温度降低到额定的下限温度时，燃烧器又会重新点燃运行或转为大火燃烧，升温的速度可调节进风阀来实现。

The fuel is burnt at first box and the high temperature is produced. The quantity of heat will conduct to air to be heated through heat exchange device. Through heat exchange, the temperature of air is dropped to less than 250 and the air will be discharged. The air to be heated is sent to hot air furnace through distribution blow fan. After absorbed heat to the rate value, the air will be sent from the vent of hot air. When the temperature of hot air reaches the rated upper limit, t he burner can stop or turn to small fire automatically. When the temperature of hot air drops to the rated low limit, the burner can burn or turn to big fire automatically.

技术参数 Technical parameters

型 号 Type	燃烧器型号 Combustion device type	燃油量 Oil combustion (kg/h)	供热量 Heat supply capacity (10 ⁴ kcal/h)	外形尺寸 Overall dimension L×W×H (mm)	热风口 Hot air hole L×W (mm)	总重 Total weight (kg)
RLY1	QYC5	1.3~1.6	1	1000×1000×1000	φ200	150
RLY4	QYC5	5~6.5	4	1700×1000×1600	140×160	1100
RLY10	Y1	13~16	10	2100×1300×1000	180×200	1970
RLY20	YL3	26~32	20	2800×1400×1700	200×250	2260
RLY30	YL3	39~48	30	3400×1500×1800	250×300	3160
RLY40	YL3	52~46	40	4020×1700×1900	300×400	4750
RLY60	YL7	78~96	60	4800×1900×2100	400×500	5650
RLY100	YL8	130~160	100	5400×2100×2300	550×650	6550
RLY200	YB10	260~320	200	6000×2500×2400	750×900	7980
RLY360	YB11	468~720	360	7200×2900×2600	900×1200	9860



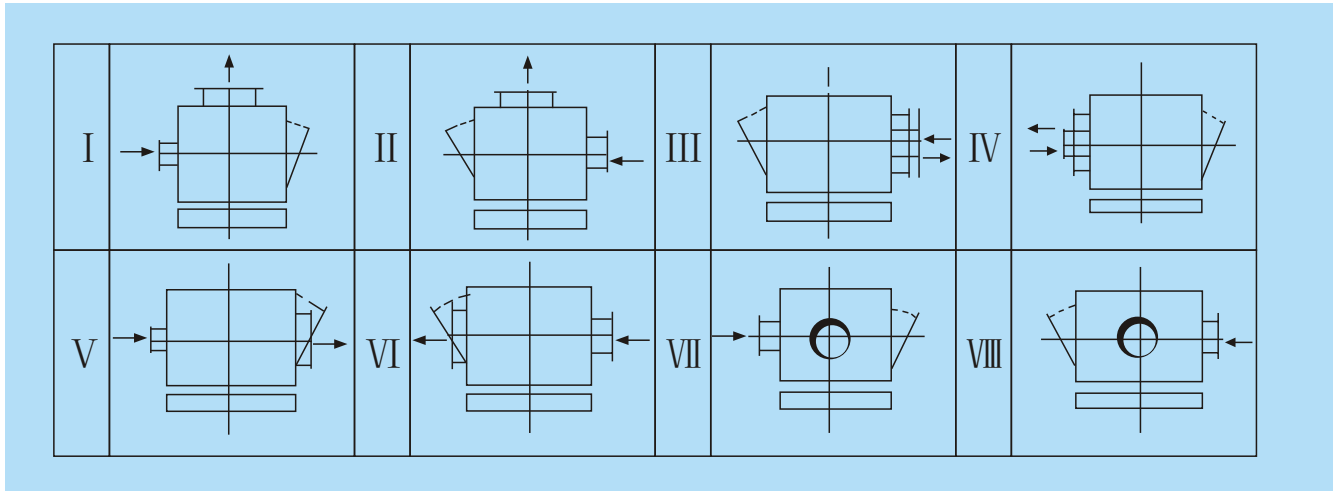
概述 Descriptions

MC-II 方型脉冲布袋除尘器是在MC- I 型的基础上经改进修改而成的, 它除了具有 I 型除尘效率高、处理风量、性能稳定、操作维修方便等特点外, 还具有比 I 型使用效果好、不易积粉、应用范围广等特点, 广泛适用于粮食食品、饲料、冶金化工、建材、医药等行业的通风除尘和粉尘回收。

On the basis of MC- I type, the square type pulsedust filter with cloth bag MC- II is the amended and improved one. In addition to the advantages that type is high in the dust removing efficiency, big in the air capacity, stable in the performance, easy in operation and maintenance, MC-II has the better result than MC- I . Such as: it is not easy to build up the powder and its application is wide and so on. The device is widely used for the ventilation, dust removing and powder restoration in the grain, food, feed, metallur-gical, chemical, building material, medical and other industries.



装配型式 Type of installation



技术参数 Technical parameters

参数Parameter		型号Type	MC24	MC36	MC48	MC60	MC72	MC84	MC96	MC120
过滤面积Filtering area(m²)			18	27	36	45	54	63	72	90
滤袋数量(只)Filtering bag number(piece)			24	36	48	60	72	84	96	120
过滤风速Filtering air speed(m/s)			2~4	2~4	2~4	2~4	2~4	2~4	2~4	2~4
过滤风量 Filtering air volume(m³/h)			2160-4300	3250-6480	4320-8630	5400-10800	6450-12900	7550-15100	8650-17300	10800-20800
最大外形尺寸(mm) Max.Overall dimension	长 Long		1000	1400	1800	2200	2600	3000	3560	4360
	宽×高 Wide×high		1450×3660							
清灰装置 Dust remover	脉冲阀数量Pulse valve number		4	6	8	10	12	14	16	20
	耗用压缩空气量 Compressed air consumption m³		0.07~0.30	0.11~0.40	0.15~0.50	0.18~0.60	0.22~0.60	0.25~0.90	0.29~0.90	0.37~0.90
	压缩空气压力 Compressed air pressure kg/cm²		3~6							

概述 Descriptions

本机是目前国内使用较为广泛的高效筛分设备, 它采用振动原理实现物料大批量筛选, 该机可广泛应用于冶金、化工、制药、粮食等行业。

This machine is high effective sieving equipment used wide in China now. It adapts the principle of vibration to realize the sieving of plenty of raw materials. It is wide used for metal lurgy industry, chemical industry, pharmaceutical industry, grain industry and so on.



应用 Applications

ZS/FS系列分层筛适用于流水作业, 是大小颗粒比例不等过筛连续出料的理想设备。

ZS/FS series vibration sieve is suitable for in line production. It is an ideal device for granule that has uneven size to sieve continuously.

特点 Features

本机由料斗、振荡室、联轴器、电机组成。振荡室内有偏心轮、橡胶软垫、主轴、轴承等组成。可调节的偏心重锤经马达驱动传达到主轴中心线, 在不平衡状态下, 产生离心力, 使物料强度改变在筛内形成轨道旋涡。重锤调节器的振幅大小可根据不同物料和筛网进行调整。

整机结构紧密、体积小、不扬尘、噪音低、质量高、能耗低、移动、维修方便。

The machine consists of hopper, vibration chamber and coupling and motor. There are eccentric wheel, rubber soft parts, main shaft bearing and so on. The adjustable eccentric weight can drive to the central line of main shaft through motor. Under the unstable state, it produces centrifugal force that makes raw material form vortex in the sieve. The size of amplitude of eccentric weight can be regulated in accordance with the different raw materials.

The whole structure of machine is compact, small in volume, no dust, low in noise, low in energy consume, convenient in moving and maintenance.

技术参数 Technical parameters

型号 Model	生产能力 Production capacity (kg/h)	过筛目数(目) (Mesh)	电动功率 Power of motor (kw)	主轴转速 Revolution of main shaft (r/min)	外形尺寸(毫米) Overall dimensions (mm)	净重 Net weight (kg)
ZS-365	60~500	12~200	0.55	1380	540×540×1060	100
ZS-515	100~1300	12~200	0.75	1370	710×710×1290	180
ZS-650	180~2000	12~200	1.50	1370	880×880×1350	250

型号规格 Model and specifications	功率 Power (kw)	筛面倾斜 Inclined angle of sieve surface	电压 Voltage (v)	筛面层数 Layers of sieve surface	过筛目数(目) (Mesh)	外形尺寸 Overall dimesion (mm)	重量 Weight (kg)	产量 Output (kg/h)
FS0.6×1.5	0.4×2	0° ~ 45° 可调 0° ~ 45° adjustable	380	1~4	6~120	1500×700×700	550	150~1500
FS0.65×2.0	0.4×2	0° ~ 45° 可调 0° ~ 45° adjustable	380	1~4	6~120	2100×750×780	650	160~2000

注: 表中产量因物料比重目数差异其产量仅供参考。
Notes: The output listed in the table is for reference only because of the difference of the specific gravity and mesh.



辅助系列



公司制造的提升机是在消化吸收国际最新提升设备技术成果的基础上研制而成的最新一代提升设备，采用带式或链式牵引，设置止逆、跑偏及测速装置；具有结构简单、使用可靠、横截面外形尺寸小、密封性好、提升高度高、提升产量大、提升效率高等特点。

The lifter researched and manufactured by the company is the newest generation lifting equipment on the basis of digested and absorbed the newest technology of lifting equipment in the world. It uses belt type or chain type to draught and possesses reverse direction preventing, deviation preventing and velometer. It features simple in structure, reliable in use, small in cross section and overall dimensions, good in air tightness, high in lifting height, big in lifting output, high in lifting efficiency, etc.

型号 Type	TD160/S	TD160/Q	TD250/S	TD250/Q
产量 (m³/h)	8	3.1	21.6	11.8
型号 Type	TD350/S	TD350/Q	TD450/S	TD450/Q
产量 (m³/h)	42	25	69.5	48

注：S、Q表示深斗浅斗

- 改尾部滑动支撑为弹性支撑，极大降低噪音，提高输送性能
- 弹性支撑板有效辅助振动筛体的平衡
- 低故障、少维修、傻瓜型简易操作
- 变速箱采用非齿轮转动，无需油润滑，避免了漏油现象
- 机构简捷方便、可以快速更换易损设备
- 材质有Q235、不锈钢、铝合金可根据需要选择
- 适用于颗粒料、带粘性的粉料、破碎料的短距离输送
- 可以根据用户需求加装密封装置
- 可以根据用户需求制作管状振动给料器

- The elastic support is instead of sliding support at tail, the noise is reduced greatly and the transportation property is improved greatly.
- The elastic support plate can help the balance of vibration sieve effectively.
- Low trouble, less maintenance, simple type simple operation.
- The gearbox uses non-gear transmission, dispense with oil lubricating, and avoid the phenomenon of oil leakage.
- The mechanism is simple and convenient and may exchange wearing parts quickly.
- The material may be Q235, stainless steel, aluminm alloy. It can be chosen in accordance with actual need.
- It is suitable for transportation in short distance of granule, viscosity powder and crushed material.
- Seal device can be equipped in accordance with the requirement of customer.

技术参数 Technical parameters

型号 Type	FZS56×2C	80×2C	110×2C	130×2C	56×3C	80×3C	110×3C	130×3C	150×3C
产量 Output (m³/h)	粒料	3-5	5-8	8-10	10-15	3-5	5-8	8-10	10-15
	粉料	1-3	4-6	6-8	10-13	1-3	4-6	6-8	10-13
功率 Power (kw)	1.5	2.2	2.2	3.0	2.2	3.0	3.0	3.0	4.0

特点 Features

该机进料口和输送管均采用开口U型，螺旋可根据需要采用变径或等径变距，较小型号无缝钢管制作，增设破拱装置。使物料均匀输送，设备检修方便。

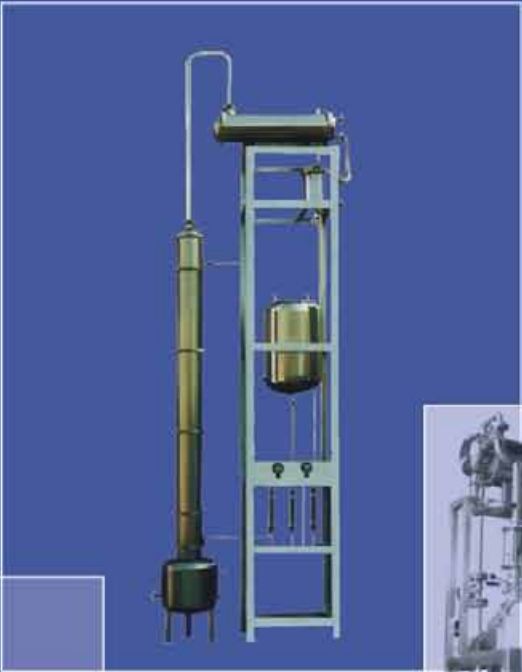
The inlet of this machine and transportation pipe uses opening U shape. According to the requirement, the screw may use transition section or constant diameter variable pitch, may be fabricated by smaller seamless steel pipe. Being designed arch breaking device, material can be transported uniformly and the overhauling of equipment is convenient.

型号 Type	LSU15	LSU20	LSU25	LSU30
产量 Output(m³/h)	4-5	8-10	12-15	20-25



提取浓缩篇

EXTRACTION & CONCENTRATION ARTICLES





概述 Descriptions

本机组对大批量药材有效成份提取效率高，节约能源，提取液含药浓度高。主体采用直筒式结构，排渣极为轻松方便。排渣门采用气压启闭系统，操作平稳可靠带自锁装置，有效避免工人操作失误，造成设备对的损伤。

This unit enjoys a high efficiency in the mass extraction of the effective ingredients of medicines. It saves energy and provides a high medicine concentration of the extracted liquid. The main engine employs straight barrel structure which is quite easy for dreg-releasing.The dreg releasing valve employs pneumatic activating system. It boasts a smooth and reliable operation and self-cleaning device, which could effectively avoid damages done to the machine by workers' erroneous operation.

应用 Applications

本机组广泛用于以水或有机溶媒为介质对中药材进行煎煮提取、热回流提取、循环浸取等工艺过程，并可在提取过程中，同时回收挥发油成份。

The unit is mainly used in the technological process of boiling extraction, thermo refluxing extraction and cycling drenching of traditional Chinese medicine by using water or organic solvents as mediums. It can also recycle volatile oil components in the process of extraction.



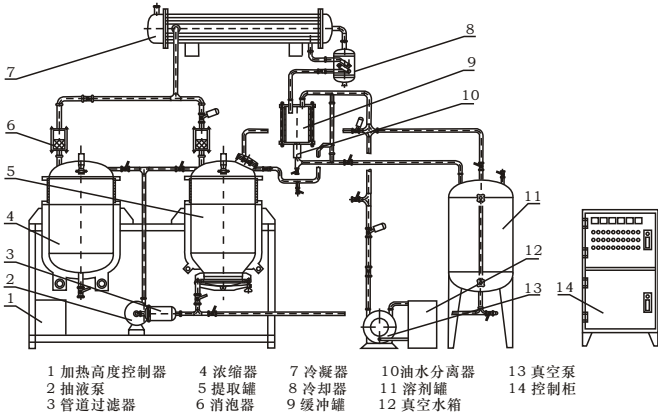
技术参数 Technical parameters

技术参数 Technical parameters	型号 Model	DT-500	DT-1000	DT-2000	DT-3000	DT-6000
设备容积 Volume of equipment(m³)		0.5	1.0	2.0	3.0	6.0
筒体直径 Diameter of barrel (mm)		800	1000	1200	1400	1600
夹套直径 Diameter of jacket (mm)		900	1100	1300	1500	1700
投料门直径 Diameter of the feeding valve (mm)		300	300	400	400	500
排渣门直径 Diameter of the dreg-releasing valve (mm)		800	800	1000	1000	1000
设备内工作压力Working pressure within the equipment(Mpa)		0.15	0.15	0.15	0.15	0.15
夹套内工作压力 Working pressure within the jacket (Mpa)		0.30	0.30	0.30	0.30	0.30
主机高度 Height of main engine (mm)		2000	3000	3600	4800	4800
设备重量 Weight of the equipment(kg)		800	1100	1600	2000	2000
冷凝器面积 Condenser area(m²)		4.0	5.0	5.0	5.0	8.0
冷却器面积 Freezer area(m²)		1.0	1.0	1.0	1.0	1.0
过滤器规格 Specification of filters		DN300×400	DN300×400	DN300×400	DN300×400	DN300×400
捕沫器规格 Specification of bubble-catcher		DN150	DN150	DN2200	DN200	DN200
油水分离器规格 Specification of oil-water separator		DN200×800	DN200×800	DN300×1000	DN300×1000	DN300×1000

特点 Features

1. 机组由提取罐、列管式加热器、蒸发器、冷凝器、油分器、收油器、药液泵、计量槽、贮液罐、过滤器、真空泵、配电柜等组成。提取罐、蒸发器顶蒸汽出口均设置了除沫器。无蒸汽加热的单位，可加配导热油加热系统。
2. 可进行热回流循环提取、浓缩，常规提取、浓缩、水沉(醇沉)、渗漉等操作。
3. 能在负压、常压、正压状态下工作。可适应水提、醇提或溶剂提取，符合GM P要求。
4. 机组在多功能、高效率、节能、操作范围广等方面具有很大优势。在综合性能方面，国内领先。它是天然植物药提取方面的中试设备。

- 1.The group consists of distilling pot, pipe heater, evaporator, cooler, oil separator, oil collector, medicine liquid pump, weighting vent, liquid storage pot, filter, vacuum pump, and electric box. deformers are fixed in the steam outlet of the distilling pot and evaporator. The units without steam heating can be fixed with oil heating system.
- 2.It can operate to hot recycling distill and condense, normal distill, condense, deposit and seep.
- 3.It can work in the condition of minus pressure, normal pressure, and plus pressure. It can apply to distill water, ethanol and solvent, up to GMP standard
- 4.The group has great advantages in multi-function, high efficiency, energy saving, and wide operation arrange. It pioneers in comprehensive capacity in nationwide; it is the pilot equipment in distilling natural herbal medicine, especially fit for research institution, universities and colleges, and factory pilot experiment, or distilling valued medicine, or low temperature fresh herbal. It has been widely used in factories.



我们先进的多功能型提取浓缩回收中试设备，是市场上销售最好的设备之一，特别适用于科研机构、大专院校、工厂中试室使用，或贵重药品的提取浓缩，或植物鲜品低温提取浓缩，它已在工厂得到成功应用。设备因其功能多、性能好、结构紧凑、加工精良，已成功进入国外市场。

It has successfully enter into the international market because of multi-function, good performance, compact structure, and superior manufacture, ssfully enter into the international market because of multi-function, good performance, compact structure, and superior manufacture.

技术参数 Technical parameters

规格型号 Model and specification		ZD-50	ZD-100	ZD-200	ZD-300	ZD-500
提取罐 Distilling pot	容量 Volume(L)	65	125	250	375	550
	夹套工作压力 Jacket work pressure(MPa)	0.15	0.15	0.15	0.15	0.15
	容器工作压力 Container work pressure(MPa)	0.09				
浓缩罐 condensing pot	容量 Volume(L)	65	125	250	375	550
	罐内真空度 Vacuum, degree inside pot (MPa)	-0.08				
	加热管工作压力 Heating pipe work pressure(MPa)	0.09				
真空泵 vacuum pump	热回流工作回流量 Working reflux of heat reflux(L/H)	20	40	80	120	180
	电压 Electic voltage(V)	380	380	380	380	380
	功率 Motor(KW)	1.5	1.5	2.2	3	3
水泵 water pump	功率 Motor(KW)	0.75	0.75	0.75	0.75	0.75



概述 Descriptions

机组由提取罐、过滤器、药液泵、加热器、蒸发器、冷凝器、冷却器、油分器、升温器、工控机等组成。

中药经浸泡加热后，浸出液由泵从提取罐底部泵入外加热器加热。多余泵液切向进入提取罐底部回流，起到局部搅拌作用。

提取液由加热器加热后，经分离浓缩器闪蒸分离。二次蒸汽切向进入提取罐，一方面把热量传给提取罐内溶剂，方面起搅拌作用。

余气路进入冷凝器冷成溶剂，回流进入提取罐。路进入冷凝液升温器进行热交换，使冷凝液温度接近提取罐溶液沸点，余气进入冷凝器。由于溶剂回流量大，药材与溶剂中含溶质的密度保持高梯度，溶质快速溶出。

由于是一面提取，一面浓缩，且浓缩液不断排出，流程时间大大缩短，仅需4-6小时。

由于能使冷凝液回流温度接近提取罐溶液沸点，能耗低。整个机组为密闭操作，溶剂消耗少。

整个机组由工控机控制，操作程序，加热温度、蒸发温度、回流温度、系统真空压力、提取罐溶剂液面，浓缩液浓度、蒸发浓缩罐液面均能设定和控制，使工艺流程运行可靠、稳定、安全。

因工艺性能好，收膏率提高。且机组能适应真空、常压、正压工艺操作的水提和醇提，特别适应热敏性物料的低温提取、浓缩。机组工艺流程布局合理、紧凑，外形美观、污染小，符合GMP要求。

机组在高效、节能、多功能等方面具有很大优势。

在综合性能方面处于国内领先地位。它是与国际天然植物药品接轨的现代化工艺装备。我公司也生产普通的手动控制机组，或半自动控制机组，可满足不同客户的需要。

该机组不但具有中草药(干品)提取浓缩的优良功能。还具有强大的能保持鲜活风味的植物鲜品低温提取浓缩功能。如鲜花、芦笋等鲜品的提取浓缩。它已在中药厂、保健品厂等工厂的实际应用中，显示了它强大的功能优势。该机也可用于天然调味品、食品添加剂中有关动物、海洋生物的提取浓缩。



The unit is composed of extracting tank, heater, evaporator, condenser, cooler, oil separator, heater and industrial control computer etc. After dipping and heating, the lixiviation liquid of traditional Chinese medicine will be pumped into the external heater for heating from the bottom of extracting tank.

The extra pump liquid will enter into the bottom of extracting tank to reflow and play its partial mixing effect. After the extracting liquid is heated by the heater, it will be evaporated instantly and separated by the separation concentrator. The twice steam will enter into the extracting tank, transmitting the heat to the solvent in the extracting tank, and also playing mixing effect.

The residual air will enter into the condenser and become solvent, and after reflux it will enter into the extracting tank. It will enter into the heater for condensed liquid to carry out heat exchange and make the tem perature of condensed liquid approximate to the boiling point of solution in the extracting tank. Then the residual air will enter into condenser. As the solvent has large reflux quantity, the density of solute in the medicine and solvent keeps high gradient, and the solute will be rapidly dissolved. The extraction and concentration are synchronous with continuous discharge of concentrated liquid, thus, the process is greatly reduced and only requires 4-6 hours.

As the reflow temperature of condensed liquid is approximate to the boiling point of solution in extracting tank, the energy consumption is very low. The whole unit is operated under airproof equipment, so the solve has little consumption.

The whole unit is controlled by industrial control computer, through which, heating temperature, evaporation temperature, reflow temperature, system vacuum pressure, liquid level of solvent in extracting tank, concentration of concentrated liquid and liquid level of evaporation concentrating tank can be set and controlled. Thus, the technology process can be operated reliably, stably and safely. With good technology performance, the ointment-collecting rate is enhanced. Water or alcohol solvent distillation in conditions of negative pressure, normal pressure and positive pressure, especially low-temperature distillation of heat sensitive materials can be made. The process flow of the unit has reasonable and compact layout, beautiful appearance and low pollution, which is in accordance with GMP requirements.

The unit has many advantages such as high efficiency, energy saving, multifunction.

As to the comprehensive performance, it is at the leading position in domestic. It is modernized technology equipment keeping pace with international natural plant medicine. Our company can also produce ordinary manual control unit or semi-automatic control unit to satisfy different requirements of customers.

The unit not only has good functions for extraction and concentration of traditional Chinese medicine and Chinese herbal medicine(Dry product), but also has powerful functions for extraction and concentration of fresh plant products at low temperature with fresh flavor preserved, such as the extraction and concentration of flower and asparagus etc. fresh products. It has applied in traditional Chinese medicine factories and health product factories, which shows its powerful function advantages.

The equipment is also applicable to the extraction and condensation of natural condiments and food additives concerning animals and halobios.



技术参数 Technical parameters

提取罐容积 Volume of extract can(m³)	0.5	1	2	3	6
浓缩器蒸发量 Volume of concentrator(L)	250	500	800	1000	2000
水提温度 Temperature for water distillation(℃)	90~100				
醇提温度 Temperature for alcohol distillation(℃)	78~83				
提取时间 Distillation time	5~6小时/批				
真空度 Vacuum degree(MPa)	-0.05~-0.08				
设计压力 Used pressure(MPa)	0.09~0.3				



WZ₁ Single-effect external circulation evaporator
WZ₁单效外循环蒸发器（能回收酒精）

提取浓缩系列



提取浓缩系列

WZ₂ double effect external circulation evaporator
WZ₂型双效外循环蒸发器



应用 Applications

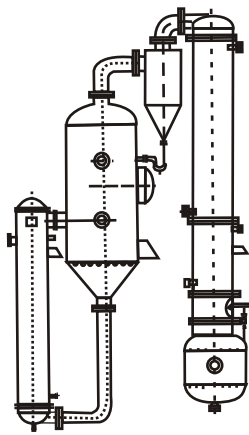
本设备适用于制药、食品、化工、轻工等行业液体物料的蒸发浓缩工艺过程。
This equipment is applicable for the evaporating and concentrating technological process of liquid materials in pharmaceutical, food, chemical and light industries.

特点 Features

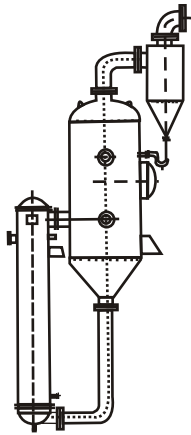
- 本设备主要由列管式外加热器和真空蒸发器及辅助装置组成，物料受热时间短，蒸发速度快，能较好地保持热敏性物料有物效。
- 本设备采用两级除沫，显著减少料液损失。
- 结构简单，清洗方便。
- 浓缩比重大，最大比重可达1.35。
- 凡与物料接触处均采用优质不锈钢制作，符合制药、食品卫生要求。
- This equipment consists of external shell and tube heaters, vacuum evaporators and other assist devices. Heating period of material is short. Evaporation is fast, which can maintain the effectiveness of thermo sensitive materials.
- This equipment adopts two-stage entrainment eliminating to reduce the loss of liquid.
- Simple structure and it is convenient to clean.
- Concentration rate is high up to 1.35.
- The parts that have direct contact with materials are made of high quality stainless steel, which meets the requirements of pharmaceutical and food hygiene.



工艺流程 Flow chart



带回收装置
with the recycle device



不带回收装置
without the recycle device

技术参数 Technical parameters

技术参数 Technical parameters	型号Model	WZ ₁ -350	WZ ₁ -500	WZ ₁ -700	WZ ₁ -1000	WZ ₁ -1500	WZ ₁ -2000
蒸发量 Evaporating quantity(kg/h)		350	500	700	1000	1500	2000
蒸汽压力 Steam pressure(Mpa)		0.25	0.25	0.25	0.25	0.25	0.25
加热面积 Heating area (m ²)		7	8	10.5	18	25	35
冷凝面积 Condensing area (m ²)		13	16	20	30	50	70
冷却面积 Cooling area (m ²)		1.5	2	3	5	7	10
真空度 Vacuum degree (Mpa)		0.08	0.08	0.08	0.08	0.08	0.08

应用 Applications

广泛用于医药、食品、化工、轻工等行业的水或有机溶媒溶液的蒸发浓缩。特别适用于热敏性物料，在真空条件下进行低温连续浓缩。

This equipment is widely used in the evaporating and concentrating of water or organic solvents in pharmaceutical, food, chemical and light industries. It is especially suitable for low-temperature continuous concentration of thermo sensitive materials under vacuum condition.



技术参数 Technical parameters

规格Specification	型号Type	WZ ₂ -1000	WZ ₂ -1500	WZ ₂ -2000	WZ ₂ -5000	WZ ₂ -8000
最大蒸发量Maximum evaporation (Kg/h)		1000	1500	2000	5000	8000
蒸汽压Steam pressure (MPa)				0.25		
蒸汽耗量Steam consumption (Kg/h)		600	900	1200	1800	1920
单外加热器加热面积Heating area of single external heater (m ²)		15	20	30	70	110
二效二次冷凝面积Dual-effect twice condensing area (m ²)		25	35	50	120	180
蒸汽管口Steam orifice		DN-70	DN-80	DN-80	DN-80	DN-80
冷却水管口Cooling water orifice		DN-50	DN-65	DN-65	DN-65	DN-80
蒸发温度Evaporating temperature (°C)	一效Single-effect 二效Dual-effect	80 70				
真空度Vacuum degree (Mpa)	一效Single-effect 二效Dual-effect	0.06 0.08				
外形尺寸Outline dimensions (m)	长Length 宽Width 高Height	5 1.7 3.5	6.5 1.8 4	5.5 2 4.2	6.8 2 4.5	7.6 2.2 4.8
设备重量Equipment weight (Kg)		1860	2550	3350	4800	6500

注:为解决冷凝液排放时会影响真空系统的稳定,我们推出全自动排水结构型,使用效果非常明显。

特点 Features

- 本设备采用列管式循环外加热工作原理，物料受热时间短、蒸发速度快，浓缩比重大，有效保持物料原效。
- 节能效果显著，比单效蒸发器节约蒸汽量30%。物料在密闭系统中蒸发浓缩，环境清洁舒适；且本系统设备独特的除沫装置，防止跑料现象。
- 凡与物料接触部分均采用进口不锈钢制作，并进行抛光处理，设备耐腐蚀性好，清洗更方便，更符合制药，食品卫生法规要求。可配微机控制系统，使用更简便，效果更稳定。

- This equipment consists of external shell and tube heaters. Heating period of material is short; evaporation is fast and concentration rate is high, which can maintain the effectiveness of thermo sensitive materials.
- There is an obvious energy-saving effect and 30% of steam is saved compared to the single effect evaporator. The material is evaporated and concentrated in the sealing system and enjoyed the clean and comfortable environment. And this system has unique entrainment eliminating device to prevent the material from leaking.
- The parts that have direct contact with materials are made of imported stainless steel and polished. The equipment is rot-resisting, easy to wash and can meet the requirements of pharmaceutical and food hygiene. A microcomputer system can be added to make it convenient to use and to achieve stable effects.



技术参数 Technical parameters

规格Specification	型号Type	WZ ₃ -1000	WZ ₃ -1500	WZ ₃ -2000	WZ ₃ -3000	WZ ₃ -5000	WZ ₃ -8000
蒸发量（清水Kg/h）Evaporation (Kg/h clear water)		1000	1500	2000	3000	5000	8000
耗汽量Steam consumption (Kg/h)		≤400	≤600	≤800	≤1200	≤2000	≤3200
外形尺寸 长×宽×高Outline dimensions L×W×H(m)		6.5×1.5×3.3	7×1.7×3.5	7.5×2×4	8×2×4.5	7.8×2×4.3	9×2.5×5
首效加热面积First-effect heating area (m²)		8	12	16	20	40	60
蒸发温度Evaporating temperature (℃)	一效Single-effect	85-95	真空度(MPa)			0.02-0.04	
	二效Dual-effect	70-80				0.05-0.06	
	三效Tti-effect	55-65				0.08-0.09	
蒸汽压力Steam pressure (MPa)		0.25	0.25	0.25	0.25	0.25	0.25
末效冷凝面积Final-effect condensing area (m²)		12	20	25	36	55	90
设备重量Equipment weight (Kg)		2200	3000	3750	4600	5300	6800
容器类别Vessel type			一类压力容器				

注:为解决冷凝液排放时会影响真空系统的稳定,我们推出全自动排水结构型,使用效果非常明显。

提取浓缩系列

概述 Descriptions

广泛适用于葡萄糖、淀粉糖、低聚糖、饴糖、山梨醇、牛奶、果汁、维C、麦芽糊精等热敏性液水溶液的浓缩。也适用于医药、中药浸提液、日用化工等工业部门作为蒸发液体物料之用。

It is widely suitable for concentration of heat sensitive water solutions such as glucose, starch syrup, oligosaccharide, maltose syrup, sorbierite, milk, fruit juice, Vitamin C and maltodextrin. It is also used for evaporation of liquid materials for Medicine, traditional Chinese medicine leaching liquid and daily chemical industry etc.



特点 Features

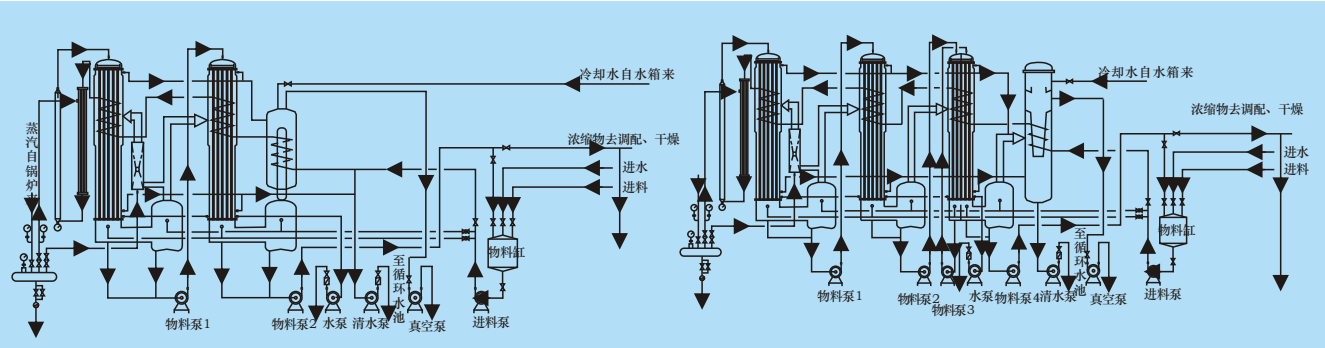
结合国外公司同类设备所长，并结合浓缩溶液的特性，设计与开发出系列降膜式浓缩器。

- 1、降膜蒸发器由布液装置、加热器、蒸发分离器、预热器、混合式冷凝器、热压泵、真空泵、物料泵、平衡槽、电控箱工作台及所有管路、阀门组成。接触物料材质：全部采用不锈钢SUS304材料。
- 2、根据蒸发能力分类有：1000~50000kg/h，连续进料与出料，系统稳定，操作方便。可连续稳定高效进行浓缩并达到合格的比重要求，并可同时回收溶媒。
- 3、浓缩比重大(可达1.25-1.28)。热效率高。节能效果显著。在本系统结构上。我们采用优化的设计方案，使蒸发传热系数达3600w(㎡.K)，物料在加热管中成膜状快速流动，同是加热温度差较小(仅为8-10℃)，蒸发温度低，物料在进入蒸发器后能形成快速闪蒸，溶液在加热管中的停留与受热时间短，对物料的粘度适应范围广(50-500CP)，受热均匀，不易结晶析出与结焦，对有效成份的破坏量小，部分二次蒸汽经喷射式热压泵重新吸入一效加热器，热量得到充分利用，节能效果显著。
- 4、结构设计先进、合理。在结构上，我们采用优化设计方案，对进料时的料液分布与在管内的流动我们采用先进的液体分布装置，使物料能均匀地入各加热管，同时，选用优质进口的内壁镜面管作加热管，使物料在管内的流动阻力小、速度快，不易析出结垢。为提高浓缩的收率，系统装备行先进的雾沫捕集器，消除雾沫夹带的能力强，分离效率可达96-99%，而且阻力降小。
- 5、采用先进的控制方法。浓缩的流程主要以各效的温度为控制参数，电源、各进、出物料泵、真空泵等控制及真空系统仪表及温度仪表全集中于操作箱、控制盘控制，实现自动化操作生产。

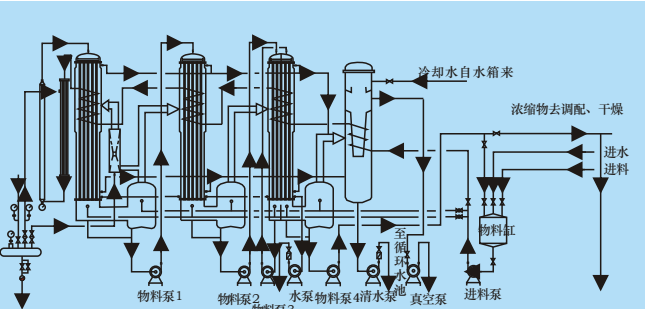
Through combining the advantages of same equipment of Company , and taking the features of concentration solutions into consideration, we have designed and developed series falling film concentrators.

- 1、The falling film evaporator is composed of liquid distribution device, heater, evaporation separator, preheater, mixing type condenser, hot pressure pump, vacuum pump, material pump, balancing tank, electric control box operation platform and all pipes and valves. The parts contacting the materials are all made of SUS304 stainless steel.
- 2、Classified according to the evaporation capacity: 1000~ 500000kg/h. With continuous feeding and discharging, stable system and convenient operation, it can continuously and stably carry out him efficiency concentration and reach the requirements for a qualified specific gravity. The solvent call also be reclaimed at the same time.
- 3、High concentration specific gravity (reaching 1.25-1.28), high heat efficiency and prominent energy-saving effect. As for the structure of the system, we adopt the optimized design plan to make the heat transfer coefficient reach 3600w (m2.K). The materials flow rapidly in the heating tube with the form of film. The heating temperature difference is small (only 8-10℃) and the evaporating temperature is low, so the materials will form rapid flash evaporation after they enter into the evaporator. The staying and heating time of the solution in the heating tube is short. It has wide application range for viscosity of materials. (50-500CP). The heating is even and crystallization precipitation and agglomeration will not be easily formed. The damage to effective components is slight. Some twice steam will be inhaled into first-effect heater through jet type hot pressure pump so that the heat can be fully used and the energy-saving effect is prominent.
- 4、Advanced and reasonable structure design. As for the structure, we adopt the optimized design plan to use the advanced liquid distribution device for the distribution of liquid materials during the feeding and their flowing inside the tubes, so that the materials can evenly enter the heating tubes. In addition, we have adopted high quality imported inner wall mirror surface tube as the heating tube to make sure that the materials have small flow resistance and rapid speed without easily separating out agglomeration. To enhance the collecting rate of concentration, the system is provided with advanced froth collector with strong capacity of eliminating froth entrainment, separation efficiency of 96-99% and small resistance.
- 5、Advanced control methods are adopted. The temperature at various effects acts as the control parameter for the process of concentration. The controls for power supply, material inlet and outlet pumps, vacuum pump and vacuum system gauge and thermometer are centralized in the operation box and control panel so as to realize the automatic operation and production.

双效降膜蒸发浓缩器工艺流程图
Technological flow chart of dual-effect falling film evaporating concentrator



三效降膜蒸发浓缩器工艺流程图
Technological flow chart of tri-effect falling film evaporating concentrator



双效降膜蒸发浓缩器技术参数

Technical parameters of dual-effect falling film evaporating concentrator

型号Type	SJM2-1200		SJM2-1600	SJM2-2000	SJM2-2500
水份蒸发量Moisture evaporation (Kg/h)	800		1000	1200	1600
进料浓缩%（可据用户要求而定）Inlet material strength %(determined according to customer requirements)			11.5-12		
出料浓度%（可据用户要求而定）Outlet material strength %(determined according to customer requirements)			45~48		
蒸汽压力Steam pressure (MPa)	620		0.6~0.8		
蒸汽耗量Steam consumption (Kg/h)			835	1020	1150
蒸汽温度Evaporating temperature (℃)	一效Single-effect 二效Dual-effect		70 45	可根据客户要求，设计更低蒸发温度	
加热温度Heating temperature (℃)	一效Single-effect 二效Dual-effect		80 70		
杀菌温度Sterilizing temperature (℃)			86~94		
冷却水耗量T/h(进水20℃，出水<40℃)Cooling water consumption T/h h (water outlet 40℃)	9	12	15	18	
电机总功率Total motor power(kw)	18	25.5	25.5	31.5	
设备尺寸（长×宽×高）Equipment dimensions(L×W×H) m	4.5×2.3×7.6	4.5×2.4×8	4.5×2.4×8.5	4.7×2.5×8.5	

三效降膜蒸发浓缩器技术参数

Technical parameters of tri-effect falling film evaporating concentrator

型号Type	SJM3-3000		SJM3-5000	SJM3-6000	SJM3-8000	SJM3-10000
水份蒸发量Moisture evaporation (Kg/h)	3000		5000	6000	8000	10000
进料浓缩%（可据用户要求而定）Inlet material strength %(determined according to customer requirements)				11.5~12		
出料浓度%（可据用户要求而定）Outlet material strength %(determined according to customer requirements)				45~48		
蒸汽压力Steam pressure (MPa)	0.6~0.8					
蒸汽耗量Steam consumption (Kg/h)	1200		1900	2300	3000	3000
蒸汽温度Evaporating temperature (℃)	一效Single-effect	70		可根据客户要求， 设计更低蒸发温度		
	二效Dual-effect	57				
	三效Tri-effect	45				
加热温度Heating temperature (℃)	一效Single-effect			80		
	二效Dual-effect			70		
	三效Tri-effect			57		
杀菌温度Sterilizing temperature (℃)				86~94		
冷却水耗量T/h(进水20℃，出水<40℃)Cooling water consumption T/h h (water outlet 40℃)	25	25	45	60	70	
电机总功率Total motor power(kw)	32.5	32.5	44	48	55	
设备尺寸（长×宽×高）Equipment dimensions(L×W×H) m	7.3×2.5×10	7.3×2.5×12.3	7.6×2.6×15.3	7.6×2.6×15.3	7.6×2.6×16	

概述

Descriptions

GXZ系列高效旋转薄膜蒸发器，是一种通过旋转刮板强制成膜，可在真空条件下进行降膜蒸发的新型高效蒸发器，它传热系数大、蒸发强度高、过流时间短、操作弹性大，尤其适用热敏性物料、高粘度物料及易结晶含颗粒物料的蒸发浓缩、脱气脱溶、蒸馏提纯。因此，在化工、石化、医药、农药、日化、食品、精细化工等行业获得广泛应用。

我公司生产制造该类设备已多年，积累了丰富的制造和使用经验。长期以来密切结合客户的生产实际以及市场需求，以满足用户的工艺要求，选择合理适宜的结构、保证上乘可靠的制造质量，在工装设备、检测手段及产品设计等方面不断改进并日益完善，取得了引人注目的成绩，技术水平和产品质量在国内处领先水平。

GXZ serial efficient rotary film evaporator is a new type, high efficient evaporator, which is produced by forced filming through spiral scraping, and can conduct falling-film evaporation in vacuum condition. With a high heat-transfer coefficient, intensive evaporation, short over current time and flexible operation, it is especially fit for the evaporation, degassing, desolventizing and distillation purification of thermo sensitive, highly viscous and easily crystallizing materials with granules. Therefore, it is widely used in such industries as chemical engineering, petrochemical, medicine, agriculture, daily chemicals, food and fine chemicals etc.

特点

Features

1 极小的压力损失 在高效旋转薄膜蒸发器中，物料“流”与二次蒸汽“流”是两个独立的通道：物料是沿蒸发筒体内壁（强制成膜）降膜而下；而由蒸发面蒸发出的二次蒸汽则从筒体中央的空间几乎无阻碍地离开蒸发器，因此压力损失（或阻力降）是极小的。

2 可实现真正真空条件下的操作 正由于二次蒸汽由蒸发面到冷凝器的阻力极小，使得整个蒸发筒体内壁的蒸发面维持较高的真空度（可达-750mmHg），几乎等于真空系统出口的真空度。由于真空度的提高，有效降低了被处理物料的沸点。

3 高传热系数，高蒸发强度 沸点的降低，增大了与热介质的温度差；呈湍流状态的液膜，降低了热阻；同时抑制物料在壁面上结焦、结垢，也提高了蒸发筒壁的传热系数；因此高效旋转薄膜蒸发器的总传热系数可高达8000KJ/h.m²℃,其蒸发强度很高。

4 低温蒸发 由于蒸发筒体内能维持较高的真空度，被处理物料的沸点大大降低，因此特别适合热敏性物料的低温蒸发。

5 过流时间短 物料在蒸发器内的过流时间很短，约10秒左右；对于常用的活动刮板而言，其刮动物料的端面有导流的沟槽，其斜角通常为45°，改变斜角的角度，可改变物料的过流时间，物料在刮板的刮动下，螺旋下降离开蒸发段。缩短过流时间，有效防止产品在蒸发过程中的分解、聚合或变质。

6 可利用低品位蒸汽 蒸汽是常用的热介质，由于降低了物料的沸点，在保证相同△t的条件下，就可降低加热介质温度，利用低品位的蒸汽，有利于能量的综合利用。

7 适应性强，操作方便 独特的结构设计，使该产品可处理一些常规蒸发器不易处理的高粘度、含颗粒、热敏性及易结晶的物料。旋转薄膜蒸发器操作弹性大，运行工况稳定，且维护工作量小，维修方便。



1 Minimal pressure loss

In the efficient rotary film evaporator, material “flow” and secondary steam “flow” are in two independent channels: The materials are film-falling along the internal wall (forced filming) of the evaporation barrel; while the secondary steam evaporated from the evaporation surface leaves the evaporator from the middle space of the barrel without hindrance, thus the pressure loss (or pressure drop) is minimal.

2 Achievable actual vacuum-condition operations

Since the resistance of the secondary steam from evaporation surface to condenser is minimal, the vacuity within the internal wall of the evaporation barrel is remained at a relatively high level (could reach -750mmHg), which is almost the same as the vacuity near the exit of the vacuum system. The improvement of vacuity has efficiently declined the boiling point of the processed material.

3 High heat-transfer coefficient, high evaporation intensity

The declining of boiling point has broadened the temperature gap in thermo medium; the liquid film in the state of turbulent flow has reduced the heat resistance and prevented the materials from coking or staining on the surface, raising the heat-transfer coefficient of the barrel's wall at the same time. Therefore, the total heat-transfer coefficient of the high-efficient revolutionary film evaporation machine could reach as high as 8000KJ/h.m2℃, with a very high evaporation intensity.

4 Low-temperature evaporation

The boiling point of the processed materials declines greatly due to the high vacuity maintained in the evaporation barrel, thus it is especially suited for the low-temperature evaporation of thermo sensitive materials.

5 short over current time

The over current time of the materials in the evaporator is quite short, around 10 seconds; As to the commonly used flexible scraper, its bevel angle is usually set at 45° due to the diversion trench at the end of the scraping material. By changing the angle of the bevel angle, the over current time of the materials can be altered, with materials leaving evaporation period in its spiral descending under the scraping of the scraper. The shortening of over current time can effectively prevent the product from decomposition, polarization or deterioration in the process of evaporation.

6 may employ low-grade steam

Steam is a commonly used heat medium. Because of the declination of the boiling point of materials, the temperature for heating medium is reduced in the condition of the same △ t. The employment of low-grade steam is favorable for the comprehensive utilization of energy.

7 Strong adaptability and convenient operation

The unique structure and design make it possible for the equipment to handle such materials that are highly viscous, containing granules, thermo sensitive and easy to crystallize, all of which are quite difficult for normal evaporators to cope with. The rotary film evaporator boasts the advantage of a high degree of operational flexibility, operating stability, little workload in preservation and convenience of maintenance.

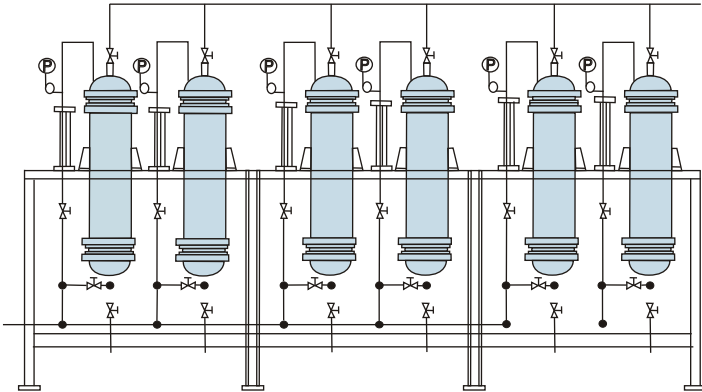
技术参数 Technical parameters

有效蒸发面积 Effective evaporation area (m²)	尺 寸 size				设 备 Equipment							
	设备总高 Total height of the equipment A	加热筒身高 Height of the heat barrel B	加料分离筒 Feeding separation barrel C	筒身外径 External diameter of barrel D	安装支座高 Height of installation support E	电机减速机 Electronic machinery decelerator F	支座孔距 Hole distance of support G	Dn	电机功率 Power of electronic machinery(KW)	压力pressure (Mpa)		总重(约) Total weight (roughly)KG
										夹套Jacket	内筒 Internal barrel	
0.5	2205	800	500	273	1365	680	480	210	1.5	0.4	<-0.095	680
1	3990	1500	500	278	1795	1445	541	219	2.2	0.4	<-0.095	1100
2	4470	1830	755	462	2455	1565	843	400	3.0	0.4	<-0.095	1950
4	5490	2630	844	712	3511	1565	1003	600	5.5	0.4	<-0.095	2980
6	6270	2890	844	912	3817	1944	1236	800	7.5	0.4	<-0.095	3550
8	6910	3658	844	916	4587	1909	1236	800	7.5	0.4	<-0.095	4880
10	6960	3658	900	1112	4542	1918	1567	1000	7.5	0.4	<-0.095	6300
12	7460	3658	1003	1316	4985	1998	1736	1200	11	0.4	<-0.095	7650
15	8475	4500	1300	1316	5800	2010	1880	1200	15	0.4	<-0.095	9800
20	10200	6000	1300	1450	6200	2289	1876	1200	22	0.4	<-0.095	

注Note:

1. 上述外形尺寸与实际设备可能略有变动,供参考,以订货后由我公司提供的图纸为准;
2. 夹套压力:常规按0.4MPa蒸汽设计,也可按用户要求另行设计,当采用导热油时,也可另行设计;
3. 主筒体(与物料接触部分)及夹套材质:可根据用户及实际需要,采用碳钢、SUS304、316L、316Ti或钛材等;

- 1.The shape and size stated above might be slightly varied from the actual equipment, and is only provided for reference. The drawings provided after order shall prevail;
2. Pressure of the jacket: is normally designed by 0.4MPa steam and can be altered at the request of customer; it can also be designed otherwise when adopting conducting oil;
3. The texture of the main body of barrel (the parts in contact with material) and jacket: can be carbon steel、SUS304、316L、316Ti or titanium material according to the actual need of customer;



概述 Descriptions

CXZ不锈钢层析柱主要做整个系统用于中试及大型生产用。每根层析柱均配有独立的防腐型流量计，阀门管道。一般把几根柱子放在一个架子上做成一个系统，一个系统配一个专门的输液泵，进出管道可按工艺要求具体而定，从而达到不同层析方法所要求的管路连接。

CXZ stainless steel column is mainly for middle-scale pilot production and large-scale production. Each column is equipped with a separate anti-corrosion flowmeter, valves and pipelines. Usually several columns are put on the same hangers to make a system, each of which is equipped with a specialized infusion pump. The access pipeline can be made according to technological requirements so as to reach the required pipeline links by different chromatography.

特点 Features

- 1.耐有机溶剂。
- 2.有弱酸性时采用316L不锈钢材质。
- 3.用卫生级管道、阀门均采用快装卡扣连接方式。
- 4.表面可根据客户要求做成镜面型或亚光型。
- 5.支架采用方钢型材制作。
- 6.柱上下配有不锈钢网，目数可达1000目以内。可进行进液，及反冲再生树脂操作。

1. Organic solvent resistance
2. Adoption of 316L stainless steel in case of weak acid
3. Healthy pipelines and valves both take the link mode of fast packaging and easy buckling.
4. The surface can be made in mirror type or sub-light type at the request of customer.
5. The support is made of square steel.
6. There is a stainless steel on top of the column within 1000Mu. It is fit for infusion and recoil operation on resin.
7. The whole machine is designed and made according to GMP requirement.

技术参数 Technical parameters

柱有效体积 L Effective volume	直径Diameter Φ=mm	高度Height h=mm	径高比（低、高） Drive higher than the (low, high)	工作压力 Work pressure (Mpa)	备注Note
1	50	1000	1：20	0.2	流动相输送-氮气Transmission of nitrogen in mobile phase
10	100	1300	1：13	0.2	流动相输送-氮气Transmission of nitrogen in mobile phase
50	200	1600	1：8	0.2	流动相输送-氮气或泵Transmission of nitrogen or pump in mobile phase
100	250	2000	1：8	0.2	流动相输送-氮气或泵Transmission of nitrogen or pump in mobile phase
200	350	2000	1：6	0.1	流动相输送-泵Transmission pump in mobile phase
300	400	2500	1：6	0.1	流动相输送-泵Transmission pump in mobile phase
400	450	2500	1：5	0.1	流动相输送-泵Transmission pump in mobile phase
500	500	2500	1：5	0.1	流动相输送-泵Transmission pump in mobile phase
700	600	2500	1：4	0.1	流动相输送-泵Transmission pump in mobile phase



概述 Descriptions

列管式热交换器是一种上下封头、筒体内布置有不同数量、规格的管子组成不同换热面积的密闭的热交换器。材料接触选用优质不锈钢316L。其它部位选用304，或全部选用优质不锈钢304。内表面卫生级镜面抛光，本热交器具有结构简单，外形美观，无死角，易清洗、符合GMP要求，广泛用于制药、化工行业、蒸汽冷凝、热水物料降温、加温等用途。

The coiled heat exchanger is such that is sealed at upper end and low end, and inside which there are different number and specification of pipes to form different heat exchange area of closed heat exchange The part touching heat is made with stainless steel and the other made of stainless steel 316L. Only adoption of the stainless steel 304 is also available The inner surface undergoes health grade mirror polishing he heat exchanger features simple structure, pleasant appearance, non-dead angle and easy clean, in compliance with GMP requirement, it is wide used for steam condensation, temperature decrease of thermal material and heating at the industries as pharmacy and chemistry.

技术参数 Technical parameters

公称直径	管程数	管子数量	换热面积 公称值/计算值					管程通道截面积 管程通道流速为0.5m/sec时的流量m/hr		公称压力
			管子长度(m)					碳钢管 φ25×2.5		
			1500	2000	3000	4000	6000	不锈钢管 φ25×2		
159	I	14	1.5/1.62	2/2.17	3/3.27			0.0044/0.0049	7.92/8.82	0.25
219	I	26	3/3.00	4/4.02	6/6.06	8/8.11		0.0082/0.0090	14.76/16.20	0.6
	II	26	3/3.00	4/4.02	6/6.06	8/8.11		0.0041/0.0045	7.38/8.10	1.0
273	I	44	5/5.08	7/6.18	10/10.26	14/13.72	21/20.63	0.0138/0.0152	24.84/27.36	1.6
	II	40	5/4.62	6/6.19	9/9.33	12/12.47	19/18.76	0.0063/0.0069	11.34/12.42	2.5
325	I	60	7/6.93	9/9.28	14/14.00	19/18.71	28/28.13	0.0188/0.0208	33.84/37.44	0.6
	II	56	6/6.47	9/8.66	13/13.06	17/17.46	26/26.26	0.0088/0.0097	15.84/17.46	1.0
400	I	119	14/13.74	18/18.41	28/27.76	37/37.10	55/55.8	0.0374/0.0412	67.32/74.16	1.6
	II	110	13/12.70	17/17.02	26/25.66	34/34.20	50/51.58	0.0173/0.0190	31.14/34.20	2.5
500	I	185			45/4.15	55/57.68	85/86.74	0.0581/0.0641	104.58/115.38	
	II	180			40/41.99	55/57.68	85/86.74	0.0283/0.0312	50.94/56.16	
600	I	169			60/62.7	85/83.88	125/126.13	0.0845/0.0932	152.10/167.76	
	II	266			60/62.05	80/82.94	125/14.72	0.0418/0.0461	75.24/82.98	
700	I	379			90/88.41	120/118.17	175/177.71	0.0091/0.1313	214.38/236.34	
	II	358			85/83.51	110/111.62	165/167.86	0.0562/0.0620	101.16/111.60	
800	I	511			120/119.20	160/159.16	240/239.60	0.1605/0.1770	288.90/318.60	
	II	488			115/113.83	150/152.16	230/228.81	0.0767/0.0845	138.06/152.10	
900	I	649			150/151.39	200/202.36	305/304.3	0.2039/0.2248	397.02/404.46	
	II	630			145/146.96	195/196.44	295/295.40	0.0990/0.1091	178.20/196.38	
1000	I	805			185/187.78	250/251.00	375/377.45	0.2529/0.2788	455.22/501.84	
	II	792			185/184.75	245/246.95	370/371.36	0.1244/0.1374	223.92/246.96	

概述 Descriptions

酒精回收塔有塔釜、塔身、冷凝器、冷却器、缓冲罐、高位贮罐六个部分组成，适用于制药、食品、轻工、化工等行业的稀酒精回收，本设备与物料接触部分均采用OCr18Ni9不锈钢制造，具有良好的耐腐蚀性能，并且有节能、环保、降低生产成本、提高效率的优点。本装置可将30度-50度的稀酒精蒸馏到90-93度，残液排放含醇度低，符合环保要求。

本装置采用高效不锈钢波纹填料。接触物料部分采用不锈钢制作符合GMP标准。

Alcohol regenerating Tower is made of six parts including: tower bottom, tower body, condenser, cooler, buffer tank and high-order holder, which is fit for the thin alcohol regeneration from pharmacy, food stuff, light industry, chemical and other industries. The parts contact with material of the equipment are all manufactured using OCr18Ni9 stainless steel, which has good corrosion stability as well as characters like energy-saving, environment-friendly, low-cost, high-efficient. The equipment can distill thin alcohol with the concentration of 30-50 degree to 90-93 degree, whose residue discharge is at low alcohol content, which confirms to environmental protection requirements.

The equipment adopts high-efficiency stainless steel ripple packing, the parts contact with material are manufactured using stainless steel manufacturing which confirms to GMP standard.

技术参数 Technical parameters

项目Project	型号Model	JH 200	JH 300	JH 400	JH 500	JH 600	JH 800
塔容积 Tower capacity(L)		640	1220	1450	2300	2500	3200
塔身高度 Tower height(mm)		6000	7000	7000	7000	7500	7500
高位罐容积 High-order holder capacity(L)		300	400	650	800	1000	1500
冷凝面积 Condensing area (m ²)		5	9	11	18	25	45
冷却面积 Cooling area (m ²)		1	1.5	2.2	4	6	8
换热面积 Heat exchange area(m ²)		3.0	6.0	6.5	17	20	32
回收能力 Regenerating capacity(kg/h)		35-50	80-100	120-150	250-300	430-450	600-650
回收浓度 Regenerating concentration(%)		≥90					
填料形式 Packing form		陶瓷波纹或不锈钢纹填料					
容器类别 Holder type		一类					
设备重量 Equipment weight(kg)		1100	1900	2300	3800	4500	6800
外形尺寸(长×宽×高)(mm) overall dimension (length, width, height)		2300×700×7300	2400×800×7500	2500×1000×9000	3000×1200×9000	3500×1400×10000	4200×1800×14000



Stainless steel tank, tank preparation
不锈钢贮罐、配制罐

提取浓缩系列



概述 Descriptions

该系列容器适用于制药行业的浓/稀配之用，罐体设有夹层，可加热、冷却、内表面采用电解镜面抛光，封头（锥形）均经旋压加工、符合GMP标准，搅拌装置采用卫生级机械密封，容器保温采用聚氨酯或珍珠棉，接口采用国际标准快装卡箍式，方便卫生，渡边经旋压加工，外表面采用抛光、喷砂、磨砂或冷轧原色哑光等多种形式，使容器在任何场地都能显示它的卓越品质。设备配备空气呼吸孔，CIP清洗喷光、视镜法兰快开式人孔等装置。

Such series of container are fit for thick/thin mixing of pharmacy industry, the tanker with interlining can heat, cool while the internal surface is eletrolytic mirror finished, the capped ends (taper) are spinning processed which applies GMP standard. The blender equipments apply sanitary mechanical sealing, the heat preservation of such containers adopts polyurethane or pearl cotton, the interfaces apply quick-fitting bar clasp style of international standard which is convenient and sanitary, the edges are spinning processed, the external surface applies grinding, sand blasting, frosted finish or cold rolling primary color matte processing, etc, that makes the container expresses its outstanding quality in any occasion. The device equips with air blowhole, CIP cleaning, blast finishing, sight glass, flange quick-opening manhole and other devices.

根据贮存能力不同由1000-15000L，贮罐能力在20000以上的贮罐，建议使用室外贮罐，贮罐使用SUS304不锈钢制成，根据罐类设计要求可附带装置如下：

- 搅拌器
- 进、出料口
- 人孔
- 温度计
- 液位指示器
- 高、低液位报警孔
- 防蝇、防尘呼吸气孔
- 计量器

As the stockpiling capacity differs from 1000-15000L, the tanks with the stockpiling capacity over 20,000L are advised to be stocked outdoor, the tanks are manufactured using SUS304 stainless steel. According to the design requirements can be attached device type as follows:

- Blender
- Feed port/ discharge hatch
- Manhole
- Thermometer
- Liquid level indicator
- High& low liquid level alarm hole
- Fly& dust-resistant blowhole
- Gauge



立式贮罐

醇沉罐

配制罐

卧式贮罐

可倾锅

反应罐

渗漉罐

客户选型反馈表

Feedback Form of Customers for Model Selection

请您按表格详细填写，以便本公司提供慎重的选型推荐

Please fill the form in detail so that our company can provide discreet recommended model:

单位 Unit: 客户姓名 Name of customer: 职务 post:

地址 Add: 联系电话 Tel: 传真 Fax:

E-MAIL: 联系时间 Date:

1. 物料名称: Material name:

2. 干燥物料的形态: Shape of raw material to be dried: ☐ 微粉 Micro powder ☐ 粉料 Powder ☐ 颗粒 Granule ☐ 块状 Block ☐ 片状 Flake ☐ 纤维状 Fibric form ☐ 滤饼 Filter cake ☐ 糊状 Mushy ☐ 膏状 Paste ☐ 液体 Liquid

3. 干燥物料的初含水 Primary moisture of raw material to be dried %; 产品终含水 Final moisture of finished peoduct %; Ph值 PH value ,

熔点 MP °C, 物料最高承受温度 Max.withstood T of raw material °C, 物料松散程度 Bulk density of raw material

4. 湿分主要成份: Main ingredient of damp powder:

5. 水份存在的形式: Existied form of moisture: ☐ 表面水 Surface water ☐ 结晶水 Crystal water

6. 成品细度 Fineness of finished product mm (目) Mesh 湿品堆比重 Bulk specific gravity of damp product Kg/m³ 产品堆比重 Bulk specific gravity of finished product Kg/m³

7. 物料有关其他特性: Reletive other characteristics of raw materials: ☐ 粘性 Viscosity ☐ 热敏性 Thermal sensitive ☐ 软化点 Softening point ☐ 相变点 Transition point ☐ 腐蚀性 (PH值) Causticity(PHVALUE) ☐ 异味 Peculiar smell ☐ 可燃性 Inflammability ☐ 易爆性 Explosion hazard ☐ 静电性 Electric static ☐ 透气性 Gas permeability ☐ 团聚性 Constipate ☐ 晶体或颗粒折医粉碎性 Comminuted of crystal or granule

8. 干燥产量要求: Requirement of output: 湿品 Damp product or dried finished product; Kg/h 或干品 Kg/h

9. 颗粒产品能否破坏: Whether the granule can ben damaged: 能 Yes ☐ 不能 No ☐

10. 物料过去的干燥方法或类似产品的干燥方法: The original dry method of raw material or dry method of similar products:

11. 干燥方式要求: Requirements of drying method: 连续干燥 Continuous drying ☐ 间隙干燥 Drying in batch ☐

12. 可供的热源: Heat source to de wupplied ☐ 电 Electricity ☐ 蒸汽 Steam ☐ 热水 Hot water ☐ 导热油 Heat conduction ☐ 燃气炉 Gas fuel furnace ☐ 燃煤炉 Coal fuel fuenace ☐ 燃油炉 Oil fuel fernace

13. 选购设备要求制作材质: Required material for manufacturing equipment when selection:

14. 环保要求及对物材料回收率的要求: Requirements of environmental protection and requirements of yield:

15. 可供安装场地: Field to be installed:

16. 其他要求: Other requirements: