



成东药机
CHENG DONG MEDICINE MACHINE

上海成东科技有限公司

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要购正宗,认准成东

Constant pursuance of
excellent
and improvement!

至善至美,

精益求精,

是我们永恒的追求!



上海市高新技术企业证书
证号: GR201631001257



生产型数字化超临界CO₂萃取装置立项证书
科学技术部科技型中小企业技术创新基金
立项代码: 13C26213302339

企业概况

上海成东科技有限公司

——是一家专业从事中药提取浓缩生产线、超临界CO₂萃取、干燥设备、发酵设备、固体制剂设备等先进制药装备研发、制造与销售的业内知名企业。

成东药机是具有三十余年历史的业内著名品牌, 是国家高新技术企业。公司拥有一批高素质的专业人才和一支强有力的研发团队。拥有完善的质量保证体系并通过ISO 9001:2015质量管理体系认证, 取得D1、D2压力容器制造许可证。多项产品通过CE认证。公司拥有数控激光焊机、等离子自动焊机、自动埋弧焊机、数控超高压水射流切割机、数控等离子切割机、管板自动焊机、X射线探伤仪等先进的制造装备和检测设备100余台套。

公司建立超临界CO₂萃取、真空带式干燥、提取浓缩、干燥制粒、包衣混合等现代化的实验室, 可为用户提供工艺小试、中试服务。

拥有六十余项发明、实用新型专利,是中国制药装备行业多项标准起草单位,承担过多项国家级、省级、市级、区级科技计划项目:

- 承担的节能型提取浓缩装置被科技部列入2005年度国家级火炬计划, 于2006年获中国制药装备行业科技成果三等奖;
- 承担的数字化超声连续中药萃取装置项目被列入2009年浙江省重大科技专项, 于2011年通过项目验收;
- 承担的智能型超声连续萃取装置项目于2009年获国家科技型中小企业技术创新基金资助(无偿), 并于2012年通过项目验收;
- 承担的《酒精回收塔》行业标准于2009年发布实施;
- 承担的《超临界CO₂萃取装置》行业标准于2011年8月发布实施。

主要产品: 中药提取、浓缩自动控制生产线、超临界CO₂萃取装置、真空带式干燥机、MVR蒸发器、多功能提取罐、双效浓缩器、自动上料、出渣、挤渣系统等。

SHANGHAI CHENGDONG TECHNOLOGY CO., LTD.

----located at No. 367, Yangle Road, Shanyang Zoning, Jinshan Industrial Park, Shanghai, covers an area of 34010.8m², registered capital 23.8millions RMB, total investment 150millions RMB. We are engaged in the research, manufacturing and sales on Chinese Medicine Extraction Production Line, Coating, Mixing etc. advanced pharmaceutical equipments. Our main products include Supercritical CO₂ Fluid Extraction Device, Multi-function Extracting Pot, all kinds of Evaporators (Single/Double Effect Energy Saving Concentrator, Fall Film Evaporator, MVR Evaporator), Alcohol Recovery Device, Vacuum Belt Dryer, High-efficiency Intelligent Coating Machine, Universal Mixer, Pyramid Mixer etc. We have more than 20,000m² modern factory, with a number of highly qualified professional R&D talents, have perfect quality assurance system, and have the manufacturing license on D1 and D2 Pressure Vessel. Chengdong Medicine Machine is the industry's leading brand with more than 30 years history, a number of products are in the domestic leading level, undertakes a number of national, provincial, municipal and regional level Sci-Tech plan projects.

- Our Energy Saving Extraction and Concentration Device was listed by the Ministry of Science and Technology in 2005 national Torch Plan, and won Third Prize of scientific and technological achievements by the China Pharmaceutical Equipment Industry in 2006;
- Our Digital Continuous Ultrasonic Chinese Medicine Extracting Device was listed in Zhejiang Province Major Sci-Tech Special Projects in 2009, and passed the project acceptance in 2011;
- Our Intelligent Continuous Ultrasonic Extracting Device was funded by the National SME Technology Innovation Fund (Free), and passed the project acceptance in 2012;
- We undertake multiple products' industry standard (China Pharmaceutical Equipment Industry) drafting tasks;
- Drafted Alcohol Recovery Tower industry standards was promulgated in 2009;
- Drafted Supercritical CO₂ Extracting Device Industry standards was promulgated in August, 2011;
- We own more than 60 invention and Utility patent.

Our products are sold throughout the country, and exported to the United States, Mexico, Bulgaria, Thailand, Indonesia, Malaysia, Myanmar, Vietnam, Bangladesh, India, Australia, Peru etc., and we enjoy high reputation among the counterpart trader and the users. We have taken a number of construction of large-scale extraction and concentration of automatic production line of Traditional Chinese Medicine (turnkey project). The project automatic control production line on Chinese Medicine Extraction and Concentration we undertook at Guangdong Tai' an Tang Pharmaceutical Co., Ltd in 2015 was already put into use. Whole process of the Chinese medicine production at Tai' an Tang Pharmaceutical Co., Ltd is controlled through the central control room, the production of feeding, extraction, filtration, storage, concentration, slag discharging, slag squeezing and other processes etc. achieve the entire digital monitoring and management, in line with national standards of the granular formulation production. Tai' an Tang Intelligent Digital Traditional Chinese Medicine Extraction workshop, is an integrate automatic extraction and processing platform of traditional Chinese Medicine, covers " Chinese Medicine Purchasing Procurement — Warehousing Scheduling — Pretreatment — Digital Control Extraction — Sample Analyzing" . It is the first ten thousand tons grade intelligent and digital production line in Eastern Guangdong area. There are equipments such as: Chinese Medicine Extraction Tank, Double Effect Concentrator, MVR Concentrator, Spherical Concentrator, Single Effect Concentrator, Alcohol Precipitation Tank, Percolation Tank, Alcohol Automatic Formulating and Recovery System, Automatic Slag Discharging System (slag discharging for water extraction, slag steam heating and discharging for alcohol extraction, slag steam heating and discharging for alcohol precipitation), CIP On-line Cleaning System, Vacuum Belt Drying, Square Vacuum Drying Units and other equipments, the composition of a full function of Traditional Chinese Medicine Automatic Extraction workshop. No forget get rich return society, our company founder Wang Chengdong couples reward for the society, they found a full-time boarding school Wenzhou Yuxiu School in 1998, which covers an area of more than 120mu, made certain contribution for local social welfare.

承担中国制药装备行业

多项行业标准的起草任务



实用新型专利证书
证号: ZL 2014 2 0243525.3



GB/T 19001-2016 / ISO 9001:2015 质量管理体系认证证书
证号: 00118Q31972R0M/3302



TH221-2超临界CO₂萃取装置
浙江省高新技术产品证书
证号: 200304097



JTN3-2000A节能型提取浓缩装置
浙江省高新技术产品证书
证号: 200406118



节能型提取浓缩装置
国家火炬计划证书
项目编号: 2005EB040805



中华人民共和国特种设备制造许可证(压力容器)
证号: TS2231147-2018



智能型超声连续中药萃取装置
完成创新基金项目证书
证号: 12-0884

- 8 **中药数字化自动投料、提取、浓缩、出液、出渣生产线**
AUTOMATED DIGITAL FEEDING, EXTRACTION, CONCENTRATION, LIQUID DISCHARGING, AND DREG DISCHARGING PRODUCTION LINE
- 12 **TH系列超临界流体萃取装置**
TH SERIES SUPERCRITICAL FLUID EXTRACTION DEVICE
- 17 **CD型连续逆流超声萃取装置**
CD-TYPE CONTINUOUS REVERSE FLOW ULTRASONIC EXTRACTION DEVICE
- 18 **MVR机械蒸汽再压缩蒸发器**
Mechanical Vapor Recompression
- 20 **RCN-0.5M³~6M³热回流抽提浓缩器**
RCN 0.5m³~6m³ HOT REFLUX EXTRACT CONCENTRATOR
- 22 **DT1M³~10M³多能提取罐**
DT 1m³~10m³ MULTI-FUNCTION EXTRACTING POT
- 24 **DT-50~500小型多能提取浓缩回收装置**
DT-50~500 SMALL MULTI-FUNCTION EXTRACTING & CONCENTRATING RECOVERY DEVICE
- 25 **SL-0.5M³~10M³不锈钢渗漉罐**
SL-0.5m³~10m³ STAINLESS STEEL PERCOLATION POT
- 26 **SJN-500B~8000B最新型三效节能浓缩器(能酒精回收)**
SJN-500B~8000B TYPE LATEST TRIPLE-EFFECT ENERGY-SAVING CONCENTRATOR (ALCOHOL RECOVERY)
- 27 **SJN-300B~5000B最新型二效节能浓缩器(能酒精回收)**
SJN-300B~5000B TYPE LATEST DOUBLE-EFFECT ENERGY-SAVING CONCENTRATOR (ALCOHOL RECOVERY)
- 28 **DJN-500~3000型多功能酒精回收浓缩器(最佳单效浓缩器)**
DJN-500~3000 TYPE MULTI-FUNCTION ALCOHOL RECOVERY CONCENTRATOR
- 29 **JC-300~10000型酒精沉淀罐**
JC-300~10000 TYPE ALCOHOL SEDIMENT POT
- 30 **全自动大孔树脂吸附机组**
AUTOMATIC MACROPOROUS RESIN ABSORBING UNIT
- 31 **JGL100~50000发酵罐**
JG100~50000 FERMENTER
- 32 **JH-200~1000酒精回收塔(乙醇精馏装置)**
JH-200~1000 ALCOHOL RECOVERY TOWER (ETHANOL RECTIFIER DEVICE)
- 33 **DJN-500~3000(B)型多功能酒精回收浓缩器**
DJN-500~3000(B) TYPE MULTI-FUNCTION ALCOHOL RECOVERY CONCENTRATOR
- 34 **FY型不锈钢反应罐、结晶罐 NX型浓、稀配罐**
FY TYPE STAINLESS STEEL REACTION POT, GLUE TANK, CRYSTALLIZING TANK NX TYPE THICK & DILUTE MATE TANK
- 35 **NF可倾式、立式夹层锅 / ZRP双联过滤器**
NF TILTING-TYPE & VERTICAL TYPE BLENDER / ZRP DOUBLE-LINKED FILTER
- 36 **QN-250~2000型球形浓缩罐**
QN-250~2000 TYPE SPHERICAL CONCENTRATION POT
- 37 **ZN-300~2000真空减压浓缩器**
ZN-300~2000 TYPE VACUUM REDUCED PRESSURE CONCENTRATOR

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提取浓缩系列

EXTRACTION AND
CONCENTRATION SERIES

38 SJZ-1000~20000系列多效降膜蒸发器

SJN-1000~20000 SERIES MULTI-EFFECT FALL-FILM EVAPORATOR

40 CZC型中药除渣机组

CZC TYPE CHINESE MEDICINE DREG DISCHARGING SYSTEM

42 BG系列高效智能包衣机

BG SERIES HIGH-EFFICIENCY INTELLIGENT COATING MACHINE

43 CIP在线自动清洗系统

CIP Online Automatic Cleaning System

44 Mh系列万向混合机

MH SERIES UNIVERSAL MIXER

45 Hf系列方锥型混合机

HF SERIES SQUARE CONICAL MIXER

46 CSJ型粗碎机 ZF整粒粉碎机

CSJ TYPE ROUGH MILL ZF GRANULATE PULVERIZER

47 FL30B万能粉碎机 XZS-系列震荡筛

FL30B UNIVERSAL PULVERIZER XZS-SYST VIBRATING SCREENS

48 SHK-10~300型湿法混合制粒机

SHK-10~300 TYPE WET-PROCESS MIXING GRANULATOR

49 ZDG系列 真空带式干燥机

ZDG VACUUM BELT-TYPE DRYER

52 Dg系列高速离心喷雾干燥机

DG SERIES HIGH-SPEED CENTRIFUGAL SPRAY DRYER

54 FZG方形真空干燥器

FZG SQUARE VACUUM DESICCATOR

55 工程项目/药机实验室

ENGINEERING PROJECT/
PHARMACEUTICAL MACHINERY
LABORATORY

42/43

固体制剂系列

**SOLID PREPARATION
SERIES**

45/50

智能干燥系列

**INTELLIGENT
DRYER SERIES**

55/57

工程项目/药机实验室

**ENGINEERING PROJECT/
PHARMACEUTICAL MACHINERY
LABORATORY**

中药数字化自动投料、提取、浓缩、出液、出渣生产线

AUTOMATED DIGITAL FEEDING, EXTRACTION, CONCENTRATION, LIQUID DISCHARGING, AND DREG DISCHARGING PRODUCTION LINE

概述

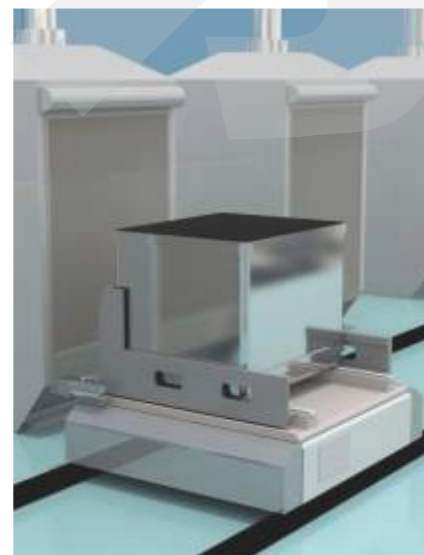
国内的大型中药集团与各大药厂均投入大量的资金进行生产厂房和设备的更新改造，以提高自动化控制水平；中药提取的设计规模也不断扩大，由年提取能力几百吨，扩大到几千吨至上万吨；传统的人工投料、出渣的提取药料方式已不能满足中药大型化生产的需要。成东药机以多年的药机设备的设计与制造经验，推出中药数字化自动投料、出渣提取生产线，实现中药提取生产线上的投料、煎煮、出渣、压干等操作单元上的管道化、连续化、自动化和智能化。

Summary

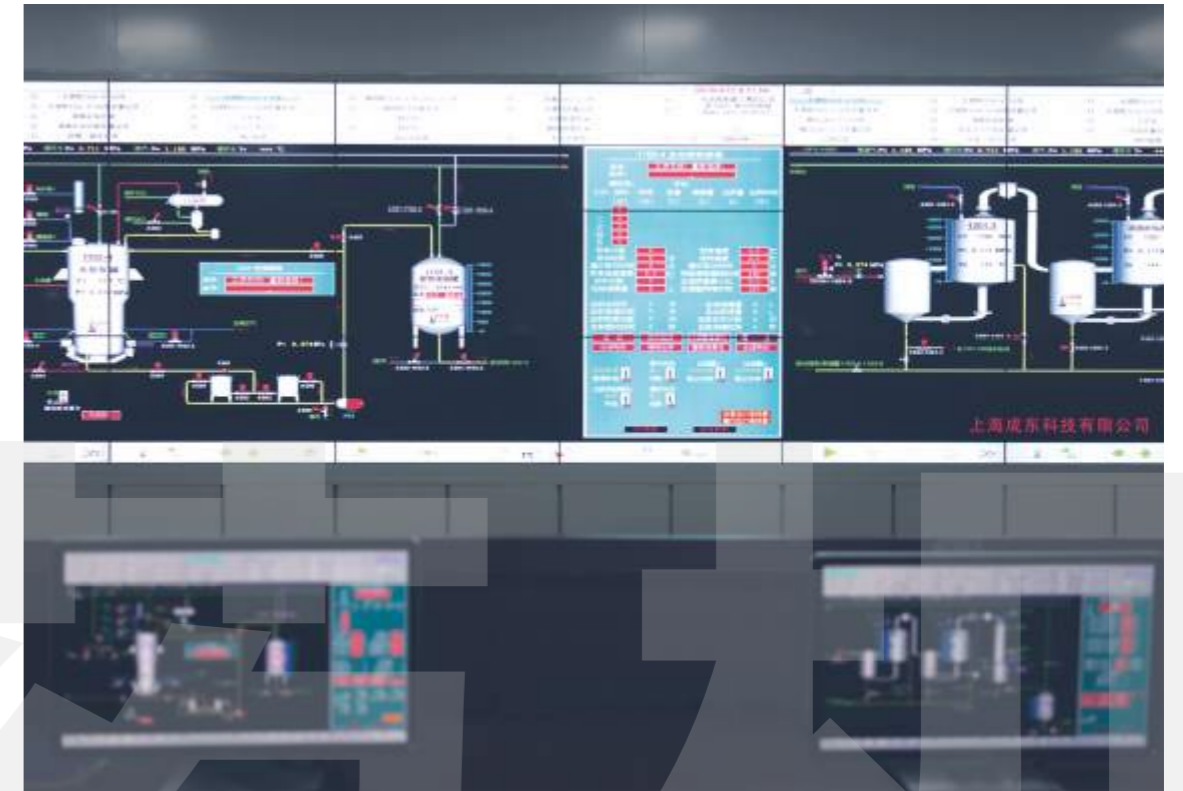
In order to improve the level of automation and control level, domestic large-scale Chinese medicine group and major pharmaceutical companies have invested a large amount of funds for the renovation of production plants and equipment, and the design scale of traditional Chinese medicine extraction is also expanding, from the annual extraction capacity of hundreds of tons, to thousands and tens of thousands of tons; traditional extraction method of manual feeding and dregs discharging can not meet the needs of large-scale production of Chinese medicine. We, CHENGDONG MEDICINE MACHINE, base on our many years of pharmaceutical equipment design and manufacturing experiences, launch the DIGITAL AUTOMATIC FEEDING AND DREG DISCHARGING EXTRACTION PRODUCTION LINE, and realize the PIPELINING, CONTINUOUS, AUTOMATION and INTELLIGENT of traditional Chinese medicine extraction line of FEEDING, DECOCTION, DREG DISCHARGING, DREG SQUEEZING etc. operation unit.



中药数字化自动投料、出渣提取生产线(流程样机)
Digital automatic feeding and dreg discharging chinese medicine extraction production line (system sample machine)



智能AGV投料小车
Smart AGV Feed Cart



中央控制室 Central Control Room

经典案例

成东药机设计、制造的太安堂智能数字化中药提取车间，是集“中药采购—仓储调度—前处理—数控提取—标准分析”为一体的中药自动化提取加工平台，是粤东首条万吨级的全自动中药提取生产车间。车间配置有：中药提取罐、双效浓缩器、MVR浓缩器、球形浓缩器、单效浓缩器、醇存罐、渗漉罐、酒精自动调配与回收系统、自动出渣系统（水提出渣、醇提蒸渣出渣、醇沉蒸渣出渣系统），CIP在线清洗系统，真空带式干燥、方形真空干燥机组等设备，组成全功能的中药提取自动化车间。

Classic case

CHENGDONG MEDICINE MACHINE designed and manufactured Intelligent Digital Traditional Chinese Medicine Extraction workshop at Tai'an Tang. It is an integrate automatic extraction and processing platform of traditional Chinese Medicine, covers "Chinese Medicine Purchasing Procurement — Warehousing Scheduling — Pretreatment — Digital Control Extraction — Sample Analyzing". It is the first ten thousand tons grade intelligent and digital production line in Eastern Guangdong area. The production line equipped with Chinese Medicine Extraction Tank, Double Effect Concentrator, MVR Concentrator, Spherical Concentrator, Single Effect Concentrator, Alcohol Precipitation Tank, Percolation Tank, Alcohol Automatic Formulating and Recovery System, Automatic Dreg Discharging System (dreg discharging for water extraction, dreg steam heating and discharging for alcohol precipitation), CIP On-line Cleaning System, Vacuum Belt Dryer, Square Vacuum Drying Units and other equipments, a composition of a full function of Traditional Chinese Medicine Automatic Extraction workshop

工作流程

本生产线全程使用“中央控制室”的微机智能化作业，系统精确控制物料至提取罐投料口投料。提取罐工艺采取本公司专利技术进行生产提取，提取罐出料口设置过滤装置，使药渣与提取液分离；药渣使用螺旋式挤压机分离，每台提取罐的药渣直接投入至螺旋式挤压机进行压干，最后药渣输送至接渣货车。中药数字化自动投料、出渣提取生产线，实现了投料、加水、提取、循环、排液、排料、过滤、药渣挤压、排渣、自动清洗等全自动、数字化管理与控制，符合（GMP）标准要求。

Work Process

The whole process of the production line using the "central control room" of the microcomputer intelligent operation, the system accurately control the material feeding until the feeding port of the extraction tank. Extraction tank adopts our own patented technology, filtration device is set at the discharge port of the extraction tank in order to separate the dreg and extract after extraction; a screw extruder is using for dregs separation, dregs from each extraction tank directly go into the screw extruder for pressed drying, and then finally dregs are delivery to the dreg truck. Traditional chinese medicine digital automatic feeding and dreg discharging extraction production line achieves the automatic, digital management and control from the feeding, watering, extraction, circulation, liquid discharge, material discharge, filtration, dregs extrusion, dreg discharge, automatic cleaning etc., in line with (GMP) standards.



自动投料、加液系统
Auto Material Feeding, Auto Liquid Charging System



欧盟CE证书：浓缩器
Concentrator CE Certificate, MD and LVD Directive



双效自动浓缩系统
Double effect automatic concentration system

特点

自动化提取罐的功能：自动加水(醇)、自动加热、保温、浸泡、计时和蒸汽压力自动调节，以及自动煎煮、自动打循环、自动出药、自动出渣、自动清洗、自动生成生产报表。

Characteristics

Functions of automated extraction tank: automatic water (alcohol) feeding, automatic heating, heat preservation, immersion, timing, steam pressure automatic regulation, and automatic decoction, automatic circulation, automatic extract discharging, automatic dreg discharging,



自动出渣、挤渣系统
Auto Dreg Discharging and Dreg Squeezing System

TH系列超临界流体萃取装置

TH SERIES SUPERCRITICAL FLUID EXTRACTION DEVICE

Supercritical fluid extraction (the SFE) is an application of a strong green separation technology, supercritical CO₂ extraction adopts CO₂ as the solvent, supercritical CO₂ fluid under greater density and dielectric constant, the solubility of the material is large, And With the pressure and temperature changes rapidly changing, therefore, not only the solubility of certain substances selective, and easy separation of solvent and extract. Compared with conventional separation methods, has low extraction temperature strong selectivity, high efficiency, low energy consumption, no pollution and other characteristics, especially for fat-soluble, high boiling points, heat-sensitive material extraction, but also for different components Fine separation. Widely used in pharmaceutical, food industry, health cares products, cosmetics, perfume and other industries.

Small test, pilot to full scale production of design and manufacture for supercritical extraction equipment, in about ten years of research and production we have accumulated a great deal of experience. All kinds of supercritical extraction device models become stereotyped system products, reasonable structure, safe, reliable, easy loading and unloading of materials. The optimal design of the seal structure and special material for seals is more reliable and durable; design of double safety protection system; Using of CO₂ circulating measurement; temperature, flow and pressure technological parameters adopt digital display control, convenient to operate, high automation. Production of supercritical extraction device designed to be controlled by the computer remotely, meet (GMP) standards.

50L-3000L中大型超临界已在有青海康普德生物制品有限公司、重庆华森制药有限公司、四川永正制药有限责任公司吉林吉福参生物科技有限公司、延安制药股份有限公司、菏泽尧舜牡丹生物科技有限公司等用户使用。出品世界各地(美国、加拿大、新加坡、马来西亚、越南、泰国等国家)

50L to 3000L production scale supercritical extraction device has been successfully used in Qinghai KANGPU Biotechnology Co., Ltd., Chongqing Pharscin Pharmaceutical Co., Ltd., Jilin Jifushen Biotechnology Co., Ltd., Yan'an Pharmaceutical Co., Ltd., Heze Yaoshun Peony Biotech Co., Ltd etc..are also imported to USA, Canada, Singapore, Malaysia, Vietnam and Thailand etc. countries



超临界流体萃取(简称SFE)是一种适用性很强的绿色分离技术,超临界CO₂萃取是采用CO₂作溶剂,超临界状态下的CO₂流体有较大密度和介电常数,对物质溶解度很大,并随压力和温度的变化而急剧变化,因此,不仅对某些物质的溶解度有选择性,且溶剂和萃取物容易分离。与常规的分方法相比,具有萃取温度低、选择性强、高效率、低能耗、无污染等特点,特别适用于脂溶性、高沸点、热敏性物质的提取,同时也适用于不同组分的精细分离。广泛应用于生物制药、食品工业、保健品、化妆品香料等行业。



中试装置(触摸屏控制)
Pilot Scale (PLC Touch Screen Control)

从小试、中试到规模生产超临界萃取装置的设计制造,在近十年的研究和生产中我们积累了大量的经验。各种规格型号的超临界萃取装置已成定型系列产品,结构合理、安全可靠、物料装卸方便。经优化设计的密封结构和特殊材料的密封圈更可靠耐用;设计有双重安全保护系统;CO₂可循环计量使用;温度、流量、压力等工艺参数采用数显控制,操作方便,自动化程度高。生产型超临界萃取装置可设计成计算机远程操作控制,符合(GMP)标准要求。

产品类型 Product Type	规格 Standard (L)	最高工作压力 MAX Working pressure (Mpa)	组合形式 Combination	备注 Notes
TH12-1	1	40	一萃二分 1 Crafts 2 pm	触摸屏控制 Touch screen control
TH22-(5+1)	5+1	40	二萃二分 2 Crafts 2 pm	
TH221-(5+1)	5+1	40	二萃二分一柱 Second half of a column extraction	
TH22-24×2	24	40	二萃二分 2 Crafts 2 pm	
TH221-24×2	24	40	二萃二分一柱 Second half of a column extraction	计算机控制 Computer control
TH32-29×3	29	50	三萃二分 3 Crafts 2 pm	
TH22-50×2	50	35	二萃二分 2 Crafts 2 pm	
TH32-50×3	50	35	三萃二分 3 Crafts 2 pm	
TH22-100×2	100	35	二萃二分 3 Crafts 2 pm	
TH32-100×3	100	35	三萃二分 3 Crafts 2 pm	
TH32-300×3	300	35	三萃二分 3 Crafts 2 pm	
TH32-400×3	400	35	三萃二分 3 Crafts 2 pm	
TH32-600×3	600	35	三萃二分 3 Crafts 2 pm	
TH32-1000×3	1000	35	三萃二分 3 Crafts 2 pm	
TH32-3000×3	3000	35	三萃二分 3 Crafts 2 pm	

备注: 我公司可根据用户需求设计不同萃取压力、不同萃取釜及分离釜数量组合的萃取装置。设计制造3000L及以上大型超临界CO₂萃取装置。
Note: We also can design and manufacture combination type of small & pilot device of different extractor according to customers' requirements, design and manufacture 3000L and above supercritical Co₂ extraction device.

超临界CO₂萃取装置特点

- 1、超临界CO₂萃取可以在接近室温下进行提取，有效地防止了热敏性物质的氧化和逸散。因此，在萃取产物中保持着药用植物的有效成分；
- 2、由于萃取全过程不使用有机溶剂，因此萃取产物中没有残留物质，保证了萃取产物100%的天然性；
- 3、萃取和分离合二为一，当含有溶解物的CO₂流体进入分离器时，由于压力和温度的变化，使得CO₂与萃取产物迅速分离，萃取效率高，能耗低；
- 4、CO₂是一种不活泼的气体，萃取过程中不发生化学反应，且属于不燃性气体，无味、无臭、无毒、安全性好；
- 5、CO₂气体价格便宜，纯度高，容易制取，且在生产中可以循环使用，降低了生产成本；
- 6、萃取过程的实现是通过改变萃取、分离工序的压力和温度等工艺参数来实现，工艺简单容易掌握，实现了计算机自动控制。

Characteristics of the Supercritical CO₂ Extraction Device

- Low Critical temperature suitable for extraction and purification of heat sensitive compound.
- Being capable to provide inert environment to avoid oxidation of products and affection of effective content of extracts.
- Fast extraction speed, no toxicity, non-flammable, safe application and no pollution upon environment.
- No residue of solvent, no nitrate and ions of heavy metal.
- The press ring of the extraction kettle can be opened quickly; O-ring is imported with service period over 4 months.
- CO₂ can be used in circulation.
- It can be designed and manufactured as per(GMP)standard.
- The pressure stabilizing system of the extraction kettle is imported back-pressure valve.
- It can be controlled with computerized automatic control system(temperature, pressure, flow).
- All valves of the device are under special heat treatment so they are robust and durable.



超临界中央控制室 Co₂ Central Control Room



欧盟CE证书：超临界CO₂



5L 超临界CO₂



菏泽尧舜牡丹生物科技有限公司TH32-500X3型超临界CO₂ 萃取装置
Heze Yaoshun Peony Biotechnology Co.,Ltd. TH32-500X3 Type CO₂ Supercritical Fluid Extraction Device

超临界CO₂萃取装置的应用 Application of the supercritical fluid CO₂ extraction device

应用范围 Range of Application	应用类型 Type of Application
医用工业 Pharmaceutical Industry	中药有效成分的提取, 药品原料的浓缩、精制、脱溶, 脂质混合物的分离精制 Extraction of effective contents of Chinese herbs, concentration, refinement and precipitation of raw material drug, separation and refinement of fatty mixtures
食品工业 Foodstuff Industry	啤酒花、咖啡豆脱咖啡因, 植物动物油提纯、植物色素的提取 Extraction of hops, caffeine removal from coffee berry, extraction of plant pigment
化妆品香料工业 Cosmetics and perfumery Industries	天然香料、合成香料的分离、精制、烟草脱碱, 化妆品原料的萃取 Separation and refinement of natural and synthetic perfumeries, dealkalization of tobacco, extraction of raw material cosmetics
化学工业 Chemical Industry	烃的分离, 有机合成原料的精制, 共沸混合物的分离, 反应的原料回收, 有机溶剂的水溶剂脱水, 水氧化 Separation of hydrocarbon, refinement of organic synthetic raw material, separation of azeotrope, retrieval of raw materials of reaction, dehydration of water soluble powder of organic solution, water oxidation
其它 Others	超导、半导体、陶瓷、石油岩心洗油、酶催化反应、材料制备、超细粒子、络合萃取、超临界染色技术、超临界反应、超临界包衣技术(制药) Superconducting, semiconductor, ceramics, oil washing of petroleum core, enzyme catalytic reaction, preparation of materials, superfine granules, extraction of complex compound, supercritical dyeing technique, supercritical reaction, supercritical coating technique(pharmacy-making)

超临界CO₂萃取技术国际交流 International exchange of supercritical CO₂ extraction technology

2016年上半年, 世界著名植物精油萃取专家——阿兰·富尔奈教授(Alain Fournet) 应国家外国专家局邀请, 赴江西仙客来生物科技有限公司共同研究灵芝孢子粉二氧化碳萃取技术, 富尔奈教授对上海成东科技有限公司生产的超临界二氧化碳萃取装置赞不绝口: “这是世界上顶尖设备。” 在结束两周的研究工作后, 他说: “一流的设备、先进的工艺, 为他提供了非常优良的研究环境, 对他的研究工作非常有利。”

阿兰·富尔奈先生是巴黎第十一公立大学药学院导师、自然科学博士、药学博士, 是国际植物药材和香料提取专家。

First half of 2016, the world famous essential oils extraction specialist - Professor Alain Fournet visited Jiangxi Xiankelai Biotechnology Co., Ltd at the invitation of State Bureau of Foreign Experts Affairs, joint research on the CO₂ Extraction Technology on Ganoderma lucidum spore powder. Professor Fournet was full of praise on the Supercritical Fluid CO₂ Extraction Machine from Shanghai Chengdong Technology CO., Ltd, he said: "This is the world's top equipment". At the end of two weeks of research, he said: "First-class equipment, advanced technology, provides me with excellent research environment, and it is very favorable to my research work."

Alain Fournet is the pharmacy supervisor of Paris 11th Public University, Ph.D. of Natural Sciences, Ph.D. of Pharmacy, is an international expert in plant herbs and spice extracts.

Note: This Supercritical CO₂ Extraction Equipment Jiangxi Xiankelai Biotechnology Co., Ltd using is well built by "Chengdong Medicine Machine".



阿兰·富尔奈博士对成东药机超临界萃取装置赞不绝口 Ph.D. Alain Fournet has high praise with Supercritical Fluid CO₂ Extraction Device

CD型连续逆顺流超声萃取装置
CD-TYPE CONTINUOUS REVERSE FLOW
ULTRASONIC EXTRACTION DEVICE



概述

由于超声波特殊的空化效应, 促使物质的细胞壁破裂, 大大加快了原质体的化学成分溶解于溶剂的过程。

本装置采用逆流可顺流操作方式, 物料、溶剂可正反向运动, 内置螺旋及气动搅拌使超声作用均匀, 具有连续、低温、快速、高得率等优点, 对中草药中生物碱类、甙类及其有效成分的提取, 效果尤为突出, 符合(GMP)标准要求。

装置特点

- 1、夹套蒸汽加热, 设温控装置, 温度20~60℃。
- 2、超声场作用均匀, 大多数物料处理时间不超过60min。
- 3、提取率高, 比传统方法提高20%以上。
- 4、提取液浓度高, 溶剂量少, 利于后续纯化处理。

Device Features

1. Steam heating jacket, set temperature control device, temperature 20~60℃.
2. Ultrasonic field uniformity, most of the material handling time is not more than 60min.
3. Compared with most traditional methods, extracting rate can be increased by 20%.
4. High concentration of extract, less solvent, conducive to subsequent purification.

Overview

As a result of special cavitation of ultrasonic, promote rupture of material cell wall, which greatly accelerated the chemical composition of protoplasm dissolved in solvent process.

This device adopt counter-current can do fair-current operation mode, materials, solvents can be positive and negative movement, built-in screw and pneumatic stirring ultrasound uniform, with continuous, low temperature, rapid, high yield and other advantage, especially for alkaloids in Chinese herbal medicine, glycosides and extraction of active ingredients, the effect is especially prominent, meet(GMP) standards.

技术参数 Technology parameter

型号规格 Model specifications	处理量 Capacity (kg/h)	提取容积 Extraction volume (L)	超声功率 Ultrasonic power (KW)	超声作用长度 Ultrasound length (m)	总功率 Total power (KW)
CD-50	50	200	2.4	1.5	4
CD-100	100	300	4.8	3	7.5
CD-200	200	600	9.6	6	14
CD-300	300	900	14.4	9	19
CD-400	400	1200	19.2	12	25
CD-500	500	1500	24	15	30

备注: 根据用户需要可作定制设计, 或在提取罐内增置浸入式振子柱以适应工艺要求。
Note: Can do custom design according to user' needs, or adding immerse-type vibrator column in extraction tank to meet the process requirements.

MVR机械蒸汽再压缩蒸发器 MECHANICAL VAPOR RECOMPRESSION



MVR的应用范围

MVR蒸发器可用于牛奶、葡萄糖、有机酸、VC、木糖、制药、植物、化工、环保废液回收、造纸、制盐等行业的蒸发浓缩、低温蒸发等工艺。成东药机制造的MVR蒸发器采用数字化全自动智能控制管理生产，自控系统采用高可靠度的德国西门子设备。使用高效率、高品质的压缩机提高加热效率，在节能的同时也超越了传统浓缩设备不能达到的生产效率。

The application range of the MVR

Milk ,glucose ,organic acid ,VC ,xylose ,pharmaceutical ,plant ,chemical industry ,environmental protection ,waste recycling ,paper making ,salt making industry such as evaporation and concentration, evaporation crystallization ,low temperature of evaporation process ,etc. The compressor adopts stainless steel material, equipment and material contact part adopts stainless steel, in line with the GMP requirements.



MVR蒸发器概况

MVR蒸发器是英文 (Mechanical Vapor Recompression) 的缩写，被称之为“机械式蒸汽再压缩”蒸发器。MVR是重新利用它自身产生的二次蒸汽做能量，从而减少对外界能源需求的一项技术。早在60年代，发达国家已经成功的将该技术应用于化工、制药、造纸、污水处理、海水淡化等行业。其工作过程是低温度的蒸汽经压缩机压缩，温度、压力提高，热焓增加，然后进入换热器换热，以充分利用蒸汽的潜热。除开车启动外，整个蒸发过程中无需生蒸汽。

多效蒸发过程中，蒸发器某一效的二次蒸汽不能直接作为本效热源，只能作为次效或次几效的热源。如作为本效热源必须额外给其能量，使其温度（压力）提高。蒸汽喷射泵只能压缩部分二次蒸汽，而MVR蒸发器则可压缩蒸发器中所有的二次蒸汽。

溶液在一个蒸发器里，通过物料循环泵在加热管内循环。初始蒸汽用新鲜蒸汽在管外加热，将溶液加热沸腾产生二次汽，产生的二次汽由压缩机吸入，经增压后，二次蒸汽温度提高，作为加热热源进入加热室循环蒸发。正常启动后，压缩机将二次蒸汽吸入，经增压后变为加热蒸汽，就这样源源不断进行循环蒸发。蒸发出的水分最终变成冷凝水排出。

The MVR profile

Chemical pharmaceutical ,paper making ,sewage treatment and seawater desalination and other industries. Its working process is low temperature steam compressor compression , temperature , pressure, heat enthalpy increase, and then enter the condensing heat exchanger, in order to make full use of the latent heat of steam. In addition to the drive to start, the born without steam in the evaporation process.

Multi-effect evaporation process and evaporator one effect of the secondary steam can't directly as the effect of heat, only as a work or several effect of the heat source. As the effect of heat must be additional to the energy, the temperature (pressure).Compression is only a part of secondary steam, steam jet pump and MVR evaporators is compressible all secondary steam in the evaporator.

Solution in an evaporator ,through material circulating pump in heating tube loop. Initial steam with fresh outside the tube to heat, heat the solution to produce secondary steam boiling, secondary steam produced by the compressor suction, after pressurization, secondary steam temperature increase, as the heat source of heat into the heating chamber circulation evaporation. Normal boot, compressor will be secondary steam inhalation, after charging into the heating steam ,so continuous cycle evaporation. The evaporation of water eventually become condensed water discharge.

MVR主要特点

MVR蒸发设备节约能源、热效率高、功耗低、无污染、设备运行平稳，操作简单，自动化程度高并且设备紧凑、占地面积小、所需空间也小，又可省去冷却系统。对于需要扩建蒸发设备供汽、供水能力不足，场地不够的现有工厂，特别是低温蒸发所需要冷冻水、冷凝水的场合，可以收到既节省投资又可以取得较好的节能效果，是国家科技重点推荐项目。

MVR蒸发系统能源消耗对比：

如浓缩液已经被预热，每蒸发1000KG水：

单效浓缩需消耗蒸汽约1200KG左右，成本240元（冷却水消耗，真空泵等未计算在内）

双效浓缩需消耗蒸汽约700KG左右，成本130元（冷却水消耗，真空泵等未计算在内）

三效浓缩需消耗蒸汽约400KG左右，成本80元（冷却水消耗，真空泵等未计算在内）

热泵浓缩不需蒸汽，仅需耗电40度，成本约40元，且不需要蒸汽、不需要冷却水及真空泵

MVR main characteristics

MVR has more advantages, such as energy saving, high thermal efficiency, low power consumption, no pollution, equipment stable operation, simple operation, high automation and equipment in compact, covers a small area space, and save the cooling system. Especially applies to the factory who want to expand the steam and water supply but space is insufficient, and need chilled water and condensation water for low temperature evaporation situation, can save investment and gain good energy saving effect. It is a key recommendation national science and technology projects.

MVR evaporator from Chengdong Medicine Machine adopts digital intelligent automatic control production, automatic control system uses high reliability of the Germany Siemens equipment. Use high efficient and high quality compressor to improve the heating efficiency, it is energy-saving at the same time the production efficiency goes beyond traditional concentration equipment.

RCN-0.5m³~6m³热回流抽提浓缩器

RCN-0.5m³~6m³ HOT REFLUX EXTRACTOR AND CONCENTRATOR

Working principle

Feed herbal into the extract tank, add 5-10 times of solvent once, open the steam valve of open extractor jacket after soaking, about 45-60mins after boiling, can recovery the aromatic oil after the oil-water of condensate separate.

Close the second steam valve on the top of extraction tank, open the vacuum, the extract was inhaled into evaporator after filtered, the second steam which was produced by boiled liquid will go into receiving tank after condensate, as a new solvent back to extraction the tank intervallic, to promote medicines solute can rapid dissolve out. Continuous circulation of about 3 to 4 hours, the color of extract liquid will lighter until to the basic steady, the condensate will be no longer flow into the extraction tank, the tank can be unloaded residue after the extracts are pumped completely.

The bottom of the evaporator can be equipped with a steam jacket, turn off the nozzle and butterfly valve of heater cycle pipe, can use conic bottom to collect extract cream.



用途

本设备适用于植物、动物、中药、食品添加剂等的提取、浓缩、收膏、挥发油提取和酒精回收。

Use

This equipment applies to extraction, concentration, extract, essential oil extraction and alcohol recovery for plants, animals, medicine, food additives.

专利号: ZL01244590.8
Patent Number: ZL01244590.8

工作原理

药材投入提取罐内后，一次性加入5~10药材量的溶媒，浸泡后开启提取罐夹套蒸汽阀，约煎煮45-60分钟，冷凝液经油水分离可回收芳香油。

关闭提取罐顶二次蒸汽阀，开启真空，提取液经过滤后吸入蒸发器内，料液沸腾产生的二次蒸汽经冷凝后流入接受罐内，作为新溶剂间歇回流至提取罐内，促使药材溶质快速溶出。连续循环约3~4小时，提取液颜色渐淡至基本稳定后，冷凝液就不再流入提取罐内，待抽尽罐内提取液后即可卸渣。

蒸发器底部可置有蒸汽夹套，关闭喷管和循环管的蝶阀即可用锥底收膏。

结构特点

- 1、煎煮、热回流、强制循环、芳香油提取及浓缩、回收溶剂、收膏于一体，一机多用。
- 2、采用推拉式自锁专利技术出渣门，不锈钢硬管出液，安全可靠，滴液不漏。
- 3、据工艺需要可实现负压、常压等多种提取操作，切换阀门即可，操作简便。
- 4、提取和浓缩共用一套冷凝系统，整机结构紧凑，占地小，回收挥发油速度快。
- 5、溶剂在设备内密闭循环使用，减少投入量50%以上，有效减少对环境的污染，符合(GMP)标准要求。

Structural Features

1. Set boiling, heat reflux, forced circulation, essential oil extraction and concentration, solvent recovery, extract into one, one machine with several purposes.
2. Using push-pull self-locking patent slag door, stainless steel hard pipe leads-out liquid, save, do not leak drops of liquid.
3. According to technology needed to achieve negative pressure, atmospheric pressure and other extraction operation, switching valves can be easy to operate.
4. Extraction and concentration share a condensing system, machine structure is compact, small footprint, fast recovery of the volatile oil.
5. Solvent used closed & cycled in the device, reduce more than 50% input, can reduce the pollution of the environment, meet the(GMP) requirements.

技术参数 Technology parameter

规格 Specification	RCN-0.5m ³	RCN-1m ³	RCN-2m ³	RCN-3m ³	RCN-5m ³	RCN-6m ³	RCN-10m ³
有效容积 Effective volume (L)	500	1000	2000	3000	5000	6000	10000
投料量kg/批 Feeding amount kg/batch	50	120	250	350	600	700	900
提取时间 Extraction time (h)	4-5	4-6	5-6	5-6	6-7	6-7	7-8
浓缩比重 Concentration ratio	1.1-1.2	1.1-1.2	1.1-1.2	1.1-1.2	1.1-1.2	1.1-1.2	1.1-1.2
蒸发量kg/h (水) Evaporation amount kg/h (water)	200	300	750	1000	1500	2000	3000
排渣门直径 Slagging door diameter (mm)	600~1200			1200~1500			1600
平面布置尺寸 Layoutsize (m)	3×2.5	4×3	4.5×3.3	5.5×3.5	6×4.5	6×5	7×6.2

DT1m³~10m³多能提取罐

DT1m³~10m³ MULTI-FUNCTION EXTRACTING POT



用途

本设备适用于中药、植物、动物、食品、化工等行业的常压、加压水煎、温浸、回流、强制循环、渗漉、芳香油提取及有机溶剂回收等工艺操作，特别是使用动态提取或逆流提取效果更佳，时间短，有效成份含量高。

Use

This equipment applies to technology operations such as pressure, pressurized water decoction, warm dip, heat reflux, forced circulation, percolation, aromatic oils and organic solvent recovery and so on for Chinese medicine, plants, animals, food, chemical industries, particularly the effect will be better if use dynamic extraction or reflux extraction, short time, high liquid content.

可选附件

消泡器、冷凝器、冷却器、油水分离器、过滤器、药液泵等。

Optional Accessories

Defoamer, condenser, cooler, oil separator, filter, liquid pump, etc..

结构特点

- 1、出渣门采用自有专利技术，主气缸闭合渣门后，旁置两气缸推动转圈旋转，转圈特有的结构带动出渣门上升锁紧，出渣门与罐体法兰压紧而密封良好，使用安全系数高。
- 2、出液管采用不锈钢管，出液接头密封可靠，有效避免金属软管易受疲劳应力影响频繁破损泄漏问题。
- 3、可选配罐顶气动压料装置(专利)，以适应低密度物料易上浮影响提取需要。
- 4、需要快速过滤的场合，可考虑采用底壁过滤出液专利结构。
- 5、符合(GMP)标准要求。



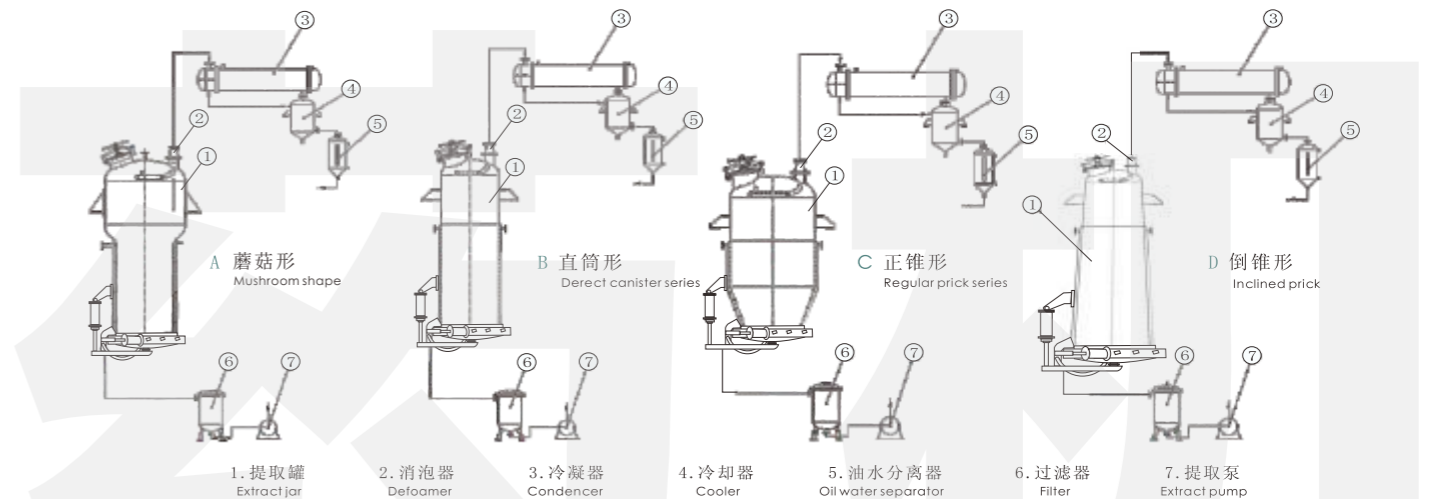
提取罐采用双重加热方式：提取罐的夹套与中央出液柱共同加热，提高药液的加热速度，使罐内温度快速均匀，有效缩短药材的提取时间。

中央出液柱带加热、过滤等功能。

The extraction tank adopts double heating method: it is heated by both the external jacket and the central liquid discharge column, which improves the heating speed of the herb solution, makes the temperature in the tank climb fast and uniform, and effectively shortens the extraction time of the herbs. Central liquid discharge column has the function of heating and filtration etc.

Structural Features

1. The slag door structure using its own patented technology, the main air cylinder closed slag door, two air cylinders in the sides push to make ring rotating, the unique similar screw structure of ring make the multi-stage wedge-shaped blocks drive slag door lock, slag door and tank flange pressed close and sealed well, has high safety factor.
2. The liquid pipe adopt stainless steel tube, the liquid joint is sealed and reliable, avoid to frequent damage leakage problems that the metal hoses are vulnerable to fatigue effectively.
3. Matching tank top pneumatic pressing device(patent),to meet the needs low density materials are easily floating and effect extraction.
4. The occasion needs rapid filter, can be considered to adopt patent structure of bottom wall filter out the liquid.
5. Meet(GMP) standards.



技术参数 Technology parameter

规格 Specification	DT-1m ³	DT-2m ³	DT-3m ³	DT-6m ³	DT-8m ³	DT-10m ³
有效容积 Effective Volume (L)	1000	2000	3000	6000	8000	10000
罐内设计压力 Design pressure of the tank (Mpa)	常压 Standard pressure					
夹套设计压力 Jacket design pressure (Mpa)	0.3-0.35					
压缩空气压力 Compressed air pressure (Mpa)	0.6-0.7					
加热面积 Heating area (m ²)	3.5	5.5	7.5	12	16	19
冷凝面积 Condensation area (m ²)	5	10	12	15-20	20-25	25-30
冷却面积 Cooling area (m ²)	1	1	1.5	2	2	3
加料口直径 Feeding hole diameter (mm)	400	400	400	500	500	500
排渣门直径 Slagging door diameter (mm)	600~1000		1000~1400		1400~1600	
搅拌转速 Stirring speed (rpm)	25-32					
搅拌电机功率 Mixing motor power (KW)	3	4	5.5	11	15	22
设备重量 Equipment weight (kg)	1800	2050	2400	3300	4030	6500

DT-50~500小型多能提取浓缩回收装置
DT-50~500 SMALL MULTI-FUNCTION EXTRACTING &
CONCENTRATING RECOVERY DEVICE

SL-0.5~10m³不锈钢渗漉罐
SL-0.5~10m³ STAINLESS STEEL
PERCOLATION POT



用途

本设备适用于提取液、中药、植物、动物、食品、化工液料的浓缩。特别适应中小药厂、实验工厂、医院、科研部门研制新药及新工艺提取与浓缩。蒸汽加热、电加热由用户选择。

Use

This device is used to doing concentrate for extract liquid, Chinese medicine, plant, animal, foodstuff and chemical material. Especially suitable for small or medium sized pharmaceutical factory, experiment factory, hospital, scientific department to develop new medicine, the new extract technology and concentrate. Users can choose steam heating or electrical heating.



用途

本设备适用于中药、植物、动物、食品、化工等行业的渗漉操作，除乳香、松香、芦荟等非组织药材因遇溶剂软化成团，会堵塞孔隙使溶剂无法均匀地通过药材，而不宜用渗漉外，其它药材都可用此法浸取。

Use

The equipment is suitable for traditional Chinese medicine, plant, animal, food, chemical industries, etc., to do percolation operation, except frankincense, rosin, aloe and other non-organizational medicine materials (soften to caking if meet solvent), will block the holes make solvent to be unable to pass to medicine materials uniform, couldn't do percolation operation, other medicine materials can use this method to extract.

技术参数 Technology parameter

规格 Specification	DT-50	DT-100	DT-200	DT-300	DT-500	
提取罐容积 Extractor	有效容积 Effective volume (L)	50	100	200	300	500
	夹套工作压力 Working pressure of jacket (Mpa)	<0.15	<0.15	<0.15	<0.2	<0.2
	内胆工作压力 Working pressure of inner (Mpa)	常压				
浓缩器 Concentrator	蒸发量 (蒸汽) (水) Evaporation (steam) (water) (kg/h)	25	50	100	150	300
	电加热功率 Electrical heating power (kw)	12+18	16+24	20+32	24+36	36+48
	最大真空度 Maximum vacuum (Mpa)	-0.08	-0.08	-0.08	-0.08	-0.08
泵 Pump	药液泵 Liquid pump (kw)	0.75	0.75	0.75	0.75	0.75
	水环真空泵 Water ring vacuum pump (kw)	1.5	1.5	2.2	2.2	4
外形尺寸 (长×宽×高) Outer size (L×W×H)(m)	2.5×1.5×2.5	2.8×1.8×2.8	3.2×2.2×3.2	3.3×2.4×3.6	3.8×2.5×4	

工作原理

渗漉法是往药材粗粉中不断添加浸取溶剂使其渗过药粉，从下端出口流出浸取液的一种浸取方法。渗漉时，溶剂渗入药材的细胞中溶解大量的可溶性物质之后，浓度增加，密度增大而向下移动，上层的浸取溶剂或稀浸液置换位置，造成良好的浓度差，使扩散较好地自然进行，故浸取效果优于浸渍法，提取也较完全，而且省去了分离浸取液的操作时间，符合(GMP)标准要求。

Working principle

Percolation is extraction method that adding solvent to thick powder of medicine materials and let the solvent go cross the powders, flow out extract liquid from the bottom exit. When do percolation, after the solvent goes into the cell of medicine materials and dissolves a large number of soluble materials, the density increases, the density increases and moves down wards, upper solvents or the dilute liquid replace the position, causing a good difference density, let the spread process well and naturally, so the result of extract is superior to the dip method, can extract more completely, and save the time of separate the dip liquid, meet(GMP)standards.

SJN-500B~8000B最新型三效节能浓缩器 (能酒精回收)

SJN-500B~8000B TYPE LATEST TRIPLE-EFFECT ENERGY-SAVING
CONCENTRATOR(ALCOHOL RECOVERY)



用途

本浓缩器适用于中药、西药、葡萄糖、淀粉、味精、食乳品、化工等液料的浓缩，尤其适用于热敏性物类的低温真空浓缩。

Use

The concentrator is used for chinese medicine, western medicine, glucose, starch, MSG, food-dairy products and chemical industries to concentrate liquid materials, especially for concentrating heat-sensitive materials in vacuum at a low temperature.

特点与效益

专利号: ZL01333918.4 Patent Number: ZL01333918.4

1. 节能效益，按SJN-1000B型计算，一年节约蒸汽5400吨，节约电13万度，折人民币20-25万元。(与单效对比)
2. 采用自然循环形式与负压蒸发方式，蒸发速度快，浓缩比重大，可达1.35(一般中药浸水膏)，不需敞口锅收膏。
3. 本浓缩器采用三效同时蒸发，二次蒸汽得到反复利用，耗能量减低70%。
4. 多功能操作特点：可以回收酒精浓度80度左右；可以一次成膏，有一效进料，经过第二效，第三效出来已一次成膏。
5. 本浓缩器有特殊构造，浓缩出来的物料味道浓，膏质均匀。物料在密封无泡沫状态下浓缩不易跑料，减少污染，当天物料当天浓缩完毕，不易结焦，清洗方便。加热器，蒸发器外面高温层。
6. 设有自动排水装置，蒸发出来的冷凝水能自动排水。
7. 本浓缩器采用304不锈钢所制，符合医药食品卫生法要求，符合(GMP)标准要求。

Features and benefits

1. Energy efficiency, according to calculation of SJN-1000B type, in one year, can saving 5400 tons of steam, electricity 130000 degrees, about RMB 200000-250000 yuan in total(compare with Single Effect,).
2. Adopt external heating with natural ring type and negative pressure evaporating type, has high evaporate speed, great concentration proportion, up to 1.4(general medicine extract), no need the caldron to collect.
3. The concentrator adopt 3-effect evaporate at the same time, the second evaporation to be used, energy consumption is 70% lower compared with the other concentration.
4. Multi-function operating characteristics: the concentration of alcohol can be recycled about 80 degrees; can one into paste there is a valid feed, after the second effect, the third effect has come into a paste.
5. The concentrator has a special structure, concentrate tasted thick, the cream is uniform. The material evaporate in a sealed no foam state, difficult to run material, reduce pollution, material will be concentrated completely the same day, not easy to coking, easy to wash. There are heat zones out of heater and evaporator.
6. Have been setted automatic drainage, condensate water of evaporation can drain off automatically.
7. The concentrator uses(0Cr18Ni9) stainless steel, meet the medical food hygiene requirements, meet(GMP)standards.

技术参数 Technology parameter

系列型号 Series type	SJN-500B	SJN-1000B	SJN-1500B	SJN-2000B	SJN-5000B	SJN-8000B
蒸发量 Evaporation capacity(kg/h)	500	1000	1500	2000	5000	8000
耗气量 Steam consumption(kg/h)	300	400	600	800	2000	3000
外形尺寸 Outer-size(m)	3x5x1.3	3.3x6.5x1.5	3.5x7x1.7	4x7.5x2	4.5x8x2	5x9x2.5
蒸发温度 Evaporation temperature(°C)	一效 1st Effect	75~85		真空度 Vacuum degree(Mpa)	一效 1st Effect	0.02~0.04
	二效 2nd Effect	60~70			二效 2nd Effect	0.05~0.06
	三效 3rd Effect	50~60			三效 3rd Effect	0.07~0.085
蒸汽压力 Steam pressure(Mpa)	<0.15		浓缩比重 The ratio of concentration	1.1-1.2		

SJN-300B~5000B最新型二效节能浓缩器 (能酒精回收)

SJN-300B~5000B TYPE LATEST DOUBLE-EFFECT ENERGY-SAVING
CONCENTRATOR(ALCOHOL RECOVERY)



用途

本浓缩器适用于中药、西药、葡萄糖、淀粉、味精、食乳品、化工等液料的浓缩，尤其适用于热敏性物类的低温真空浓缩。

Use

The concentrator is used for chinese medicine, western medicine, glucose, starch, MSG, food-dairy products and chemical industries to concentrate the liquid materials, especially for concentrating heat-sensitivity materials in vacuum at a low temperature.

特点与效益

专利号: ZL01333918.4 Patent Number: ZL01333918.4

1. 节能效益，按SJN-1000B型计算，一年节约蒸汽3500吨，节约水9万吨，节约电8万度，折人民币10—15万元。(与单效对比)
2. 采用外加自然循环形式与负压蒸发方式，蒸发速度快，浓缩比重大，可达1.35(一般中药浸膏)，不需敞口锅收膏。
3. 本浓缩器采用二效同时蒸发，二次蒸汽得到利用，耗能量与其他浓缩相比降低50%，采用本设备回收酒精浓度能达到80度。
4. 本浓缩器有特殊构造，浓缩出来的物料味道浓、膏质均匀。物料在密封无泡沫状态下进行浓缩，不易跑料，减少污染，当天物料当天浓缩完毕，不易结焦，方便清洗。
5. 设有自动排水装置，蒸发出来的冷凝水能自动排水。
6. 本浓缩器采用304不锈钢所制，符合医药食品卫生法要求，符合(GMP)标准要求。

Features and Benefits

1. Energy efficiency, according to calculation of SJN-1000B type, in one year, can saving 3500 tons of steam, 90000 tons of water, electricity 80000 degrees, about RMB 100000-150000 yuan in total(compare with Single Effect,).
2. Adopt external heating with natural ring type and negative pressure evaporating type, has high evaporate speed, great concentration proportion, up to 1.35(general medicine extract), no need the caldron to collect.
3. The concentrator adopt 2-effect evaporate at the same time, the second evaporation to be used, energy consumption is 50% lower compared with the other concentration, using the equipment recovered alcohol the concentration can reach 80 degrees.
4. The concentrator has a special structure, concentrate tasted thick, the cream is uniform. The material evaporate in a sealed no foam state, difficult to run material, reduce pollution, material will be concentrated completely the same day, not easy to coking, easy to wash.
5. Have been setted automatic drainage, condensate water of evaporation can drain off automatically.
6. The concentrator uses(0Cr18Ni9) stainless steel, meet the medical food hygiene requirements, meet(GMP)standards.

技术参数 Technology parameter

系列型号 Series type	SJN-300B	SJN-500B	SJN-1000B	SJN-1500B	SJN-2000B	SJN-3000B	SJN-5000B
蒸发量 Evaporation capacity(kg/h)	300	500	1000	1500	2000	3000	5000
耗气量 Steam consumption(kg/h)	170	270	570	800	1100	1600	2500
外形尺寸 Outer-size(m)	3×1.3×3	4×1.5×3.3	5×1.7×3.5	6×2×4.2	6.2×2×4.6	6.5×2×4.9	7.5×2.5×5.7
循环水量 Water consumption(t/h)	15-250						
蒸发温度 Evaporation temperature(°C)	一效 1st effect	75-85		真空度 Vacuum degree(Mpa)	一效 First step	0.06	
	二效 2nd effect	60-70			二效 2nd step	0.08	
蒸汽压力 Steam pressure(Mpa)	<0.15		浓缩比重 The ratio of concentration	1.1-1.2			

DJN-500~3000型多功能酒精回收浓缩器 (最佳单效浓缩器)

DJN-500~3000 TYPE MULTI - FUNCTION ALCOHOL RECOVERY CONCENTRATOR (THE BEST SINGLE-EFFECT CONCENTRATOR)



特点

- 1.酒精回收：改进了设备的工艺流程，回收率达95%，酒精损耗低于5%。降低耗能30%，具有投资小，回收效益高的特点。
- 2.浓缩液料：本设备采用外加热自然循环与真空负压蒸发方式，蒸发速度快，建议出液比重1.2；液料在全密封无泡沫状态下进行浓缩，用本设备浓缩出来的药液，无污染、药味浓。
- 3.设有自动排水装置，蒸发出来的冷凝水能自动排水。

Feature

1. Alcohol recovery: improving the process of equipment, recovery rate reach 95%, alcohol consumption is less than 5%. Reduce 30% energy consumption, with features of small investment and high recovery efficiency.
2. Concentrated liquid material: the plant adopts external heating with natural circulation vacuum evaporation, has rapid evaporation speed, suggest to discharge at concentration ratio 1.2; liquid is concentrated in a sealed without bubble state, the concentrated liquid is no pollution with dense taste. Appearance of the equipment is nice, easy to clean, meet (GMP) standards.
3. Setted automatic drainage device, condensate water from evaporation can be drained out automatically.

技术参数 Technology parameter

型号 Type	DJN-500	DJN-1000	DJN-1500	DJN-2000	DJN-3000
蒸发量 Evaporating volume(kg/h)	500	1000	1500	2000	3000
回收酒精 Alcohol recovery(kg/h)	200-500	350-1000	500-1500	600-2000	1000-3000
使用压力 Using pressure(Mpa)	0.15				
真空度 Vacuum Degree(Mpa)	0.02-0.08				
回收酒精浓度 Retrieval degree of alcohol	85°C				
浓缩比重 The ratio of concentration	1.1-1.2 concentration ratio up 1.3				
外形尺寸 Outer size(m)	长x宽x高 LxWxH				
	4.3x1.2x3.8	4.8x1.3x4	5.0x1.5x4.5	5.5x1.7x4.8	6.2x1.8x5.5

JC-300~6000型酒精沉淀罐 JC-300~6000 TYPE ALCOHOL SEDIMENT POT



用途

主要用于中药煎煮液经浓缩液进行冷冻罐低温沉淀的操作，也可用中药提醇后浓缩液进行水沉淀的操作，符合(GMP)标准要求。

Use

Mainly used by water solution of traditional Chinese medicine for operating low temperature alcohol precipitation in frozen tank after concentrated, also used by concentrated solution of traditional Chinese medicine for operating water sediment after purified, meet(GMP)standards.

结构与特点

本设备为上封头下锥底结构，支耳式安装。带冷水夹套，内装浆式搅拌机构，搅拌机构采用机构密封。上清液采用360度旋转出液。

Structure and Feature

This device reaches the required temperature of precipitation by jacket elliptical head, conical bottom of the cylinder body, in-built type mixing. It is the best to process liquid-solid separation by low-temperature frozen sedimentation, in order to improve the purity and clarity of the of Chinese medicine extract

技术参数 Technology parameter

型号 Type	JC300	JC500	JC1000	JC1500	JC2000	JC3000	JC6000	JC10000
有效容积 Effective Volume (m ³)	0.3	0.5	1.0	1.5	2.0	3.0	6.0	10
换热面积 Heat exchange area (m ²)	1.8	3.0	4.5	6.5	7.5	8.5	13	17
工作温度 Working temperature (°C)	-15~常温 Standard temperature							
夹套工作压力 Max pressure Jacket (Mpa)	≤0.3	≤0.3	≤0.3	≤0.3	≤0.3	≤0.3	≤0.3	≤0.3
内筒工作压力 Liner working medium (Mpa)	≤0.09	≤0.09	≤0.09	≤0.09	≤0.09	≤0.09	≤0.09	≤0.09
传热系数 Heat transfer coefficient	150-200							
搅拌功率 Mixing power (kw)	0.55	0.75	1.1	1.5	2.2	3	5.5	11
搅拌转速 Mixing speed (r/min)	0-85	0-85	0-85	0-85	0-85	0-85	0-85	0-85
总重量 Total weight (kg)	≈512	≈1250	≈1480	≈1750	≈1880	≈2200	≈4000	≈5400
D (mm)	600	800	1000	1200	1300	1400	1600	2000
D2 (mm)	700	900	1100	1300	1400	1500	1700	2100
	850	1050	1300	1550	1650	1750	2000	2400
H (mm)	1700	2200	2700	3000	3300	3500	4700	5500

全自动大孔树脂吸附机组 AUTOMATIC MACROPOROUS RESIN ABSORBING UNIT

JGI00~50000发酵罐 JGI00~50000 FERMENTER



系统组成及其特点

在分离过程里引入计算机自动监控技术，实现生产程控化、监测自动化、输送管道化，提高装备的可靠性和重复性。

(1) 自动化控制系统

系统实现对泵、阀门和各种在线检测器(流量变送、压力变送)的控制和数据采集，能够方便完成多柱串联、并联操作，保证工艺的稳定性 and 准确性。

(2) 树脂柱结构

该树脂柱结构的设计合理，正确的长径比，精密的进出口流体分布装置，配备自动装填系统和空气压缩气接口，保证了大孔树脂柱装填效果和填料再生效果，为高效分离提供了保障。

Composition and Feature

The computer automatic supervision technology is introduced during the separation process, has realized the programmable control, automatic detection and pipe transportation in the production, so as to enhance the reliability and repetition of equipment.

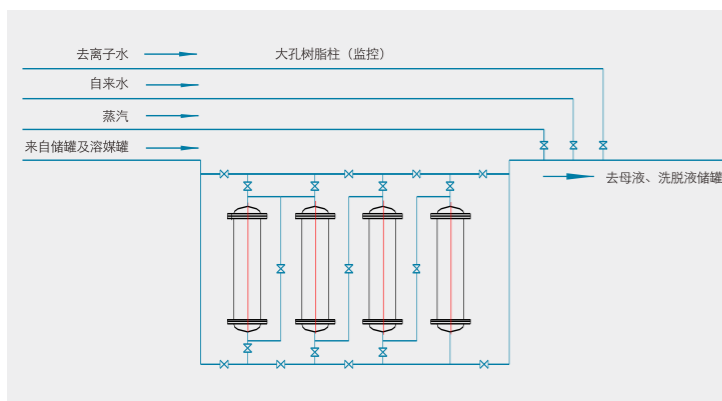
(1) Automatic control system

The system can realize control and data collection of pumps, valves and various online detectors (flow transmitter and pressure transmitter), conveniently complete the four-columns series and parallel operation and guarantee the stability and accuracy of technology.

(2) Structure of resin column

The structure of resin column is well designed with reasonable height-diameter rate. The precise inlet and outlet fluid distributing device is equipped with automatic filling system and compressed air connector to guarantee the filling effect of macroporous resin column and the regeneration effect of filler so as to provide guarantee for the high efficiency separation.

系统控制界面 System control interface



JG系列发酵罐是一种对物料进行机械搅拌与发酵的设备。该设备内循环形式运行，采用搅拌桨分散打碎气泡，它的溶氧速率高，混合效果好，广泛应用于医药、化工、食品等行业对物料的发酵，符合GMP标准要求。

JG series fermentation tank is equipment process mechanical agitation and fermentation to materials. The device adopt internal recycle form, use mixing propeller to disperse and break the bubble, has high rate of dissolved oxygen and mixed effect, is widely used in pharmaceutical, chemical, food and other industries for materials fermentation, meet(GMP)standards.

技术参数 Technology parameter

型号 Type	100L	200L	500L	1m ³	2m ³	5m ³	10m ³	20m ³	50m ³
发酵罐直径 Diameter of fermenter (mm)	400	500	700	900	1200	1500	1800	2300	3100
发酵罐总高 Total Height of fermenter (mm)	2000	2330	2650	2900	3800	4480	5250	6550	8550
罐内压力 Fermenter of pressure (Mpa)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5
夹套压力 Jacket pressure (Mpa)	0.3	0.3	0.3	0.3	0.3	0.3	管0.3 Tube	管0.3 Tube	管0.3 Tube
搅拌桨数量 Quantity of puddler	2	2	2	2	2	3	3	4	4
搅拌转速 Mixing speed (r/min)	0-350	0-300	0-265	0-220	0-180	0-160	0-145	0-125	0-120
电机功率 Power (kw)	1.5	2.2	3	4	5.5	11	22	37	55
加热/冷却方式 Heat/Cool methods	夹套 Jacket						列管 Tube/盘管 Coil		

JH-200~1000酒精回收塔(乙醇精馏装置) JH-200~1000 ALCOHOL RECOVERY TOWER (ETHANOL RECTIFIER DEVICE)



概述

本装置用于制药、食品、轻工、化工等行业的稀酒精回收，利于降低生产成本，提高经济效益，本装置可将30度—60度的稀酒精蒸馏到90度—95度，成品酒精浓度高，可加大回流比，但相应成品产量降低，残液排放含醇度小于等于3度是专门回收酒精的好设备。

Overview

This device is used for the pharmaceutical, food, light industry, chemical and other industries to do dilute alcohol recovery, it will be helpful to reduce production costs, increase economic efficiency, the device can distill 30 degrees-50 degrees dilute alcohol to 90 degrees- 95 degree, finished alcohol has high request, can increase the reflux ratio, but the corresponding product yield decreased, the alcohol degrees of residue is less than 3 degrees, it is a good equipment specially for alcohol recovery.

结构特点

本装置采用高效不锈钢波纹填料，凡接触酒精部位，如塔体、冷凝器、稳压罐、冷却蛇管等均采用不锈钢，确保成品酒精不被污染，塔釜采用可拆式U型换热管，便于对加热管外壁及蒸馏釜内壁进行清洗，符合(GMP)标准要求。

Structural Features

This device adopts high efficiency stainless steel ripple packing, the parts which contact with alcohol, such as the tower body, condenser, regulator tank, cooling coil and etc., all adopt stainless steel to ensure the product is not contaminated, tower kettle uses removable U-type, easy to clean the heating outer wall and distilling inner wall, meet (GMP) standards.

技术参数 Technology parameter

型号 Type	JH200	JH300	JH400	JH500	JH600	JH800	Jh1000
使用压力 Use pressure (Mpa)	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
冷凝面积 Condensation area (m ²)	8	16	25	30	50	70	100
冷却面积 Cooling area (m ²)	2	2	3	4	6	8	10
换热面积 Heat transfer (m ²)	4	8	12	17	25	35	45
回收能力 Recovery ability (kg/h)	45-50	90-100	120-180	250-300	350-420	580-620	800-1000
回收浓度 Recovery density (%)	91-95						
填料形式 Packing model	不锈钢波纹材料 Stainless steel ripple packing						
设备重量 Equipment weight (kg)	1100	1900	3300	4500	4800	7000	9000
外形尺寸(长x宽x高) Outer size (LxWxH) (m)	2.3x0.9x8.0	2.6x1.0x9.0	2.5x1.1x11.0	3.0x1.2x13.0	3.5x1.4x14.0	4.2x1.8x15.0	5.5x2.2x18.

DJN-500~3000(B)型多功能酒精回收浓缩器 DJN-500~3000(B) TYPE MULTI-FUNCTION ALCOHOL RECOVERY CONCENTRATOR



用途

本设备适用于中药、西药、葡萄糖、酿酒、淀粉、口服液、化工、食品、乳品等工业稀酒精回收，尤其是高浓度酒精采用真空快速回收，大批量酒精的回收。用于批量小，品种多的热敏性物料的低温真空浓缩。

Use

This equipment is applied to Chinese medicine, western medicine, glucose, brewing, starch, oral liquid, chemical, food, dairy and other industries for recovering alcohol, particularly for high concentration of alcohol by vacuum rapid recovery, the recovery of large quantities of alcohol. For small volume, vacuum concentration of variety of heat-sensitive materials at low temperature.

特点

一种设备二种操作方法(见说明)

- 1.酒精回收：回收能力大，结构工艺先进一步回收率达95%，酒精损耗率低于5%以下，降低能耗30%，具有投资小，回收效益高的特点。
- 2.浓缩液料：本设备采用外加热自然循环与真空负压蒸发方式，蒸发速度快，浓缩比重最多可达1.3，建议1.2出液。用本设备浓缩出来的药液，无污染，药味浓，符合(GMP)标准要求。
- 3.设有自动排水装置，蒸发出来的冷凝水能自动排水。
- 4.另可提供连续式快速回收酒精装置。

Feature

One device with two operating methods(see notes)

1. Alcohol recovery: large recycling capacity, advanced structure and process, recovery rate can reach 95%, alcohol consumption is less than 5%, reduce 30% energy consumption, with features of small investment and high recovery efficiency.
2. Concentrated liquid material: the plant adopts external heating with natural circulation vacuum evaporation, has rapid evaporation speed, max concentration ratio is up to 1.3, suggest to discharge at 1.2; liquid is concentrated in a sealed without bubble state, the concentrated liquid is no pollution with dense taste. Appearance of the equipment is nice, easy to clean, meet (GMP) standards.
3. Setted automatic drainage device, condensate water from evaporation can be drained out automatically.

技术参数 Technology parameter

型号 Type	DJN-500B Φ260	DJN-1000B Φ400	DJN-1500B Φ600	DJN-2000B Φ800	DJN-2500B Φ1200	DJN-3000B Φ1500
蒸发量 Evaporation capacity (kg/h)	400	800	1000	1200	1500	2000
回收酒精 Alcohol recovery (kg/h)	200	400	650	1000	1500	2000
使用压力 Use pressure (Mpa)	<0.15					
真空度 Vacuum degree (Mpa)	0.02-0.08					
回收酒精浓度 Recovery alcohol concentration (°)	91-95					
浓缩比重 The ratio of concentration	1.1-1.2					
外形尺寸 Outer size (m)	长x宽x高 LxWxH					
	2x1x8.5	2.2x1.2x10.5	2.5x1.3x12	2.5x1.4x13.5	2.7x1.5x15	2.8x1.5x17

FY型不锈钢反应罐、结晶罐

FY TYPE STAINLESS STEEL REACTION POT,
CRYSTALLIZING TANK

特点

本设备采用蒸气夹套加热或电加热、机械搅拌方式，可根据用户要求配备普通电机或防爆电机。筒内与轴的密封采用机械密封。跟物料接触部位采用不锈钢制造，符合（GMP）标准要求。公升容量：50-5000升。

Feature

This equipment uses steam jacket heating. Mixer with cycloidal reducer, can be equipped with normal motor or explosion-proof motor according to user requirements. Sealing of cylinder and shaft adopts mechanical seal. Material of contact area is stainless steel, meet(GMP) standards.

Volume: 50- 5000 liters.

技术参数 Technology parameter

型号 Type	FY-200	FY-300	FY-500	FY-800	FY-1000	FY-1500	FY-2000	FY-3000	FY-5000
名称 Name	指标Index								
	夹套 Jacket				内胆 Liner				
设计压力 Design pressure (Mpa)	0.4-0.6	0.4-0.6	0.4-0.6	0.4-0.6	0.2	0.2	0.2	0.2	0.2
设计温度 Design temperature (°C)	158	158	158	158	127	127	127	127	127
工作压力 Working pressure (Mpa)	0.4-0.5	0.4-0.5	0.4-0.5	0.4-0.5	0.15	0.15	0.15	0.15	0.15
工作温度 Operating temperature (°C)	138	138	138	138	<121	<121	<121	<121	<121
换热面积 Heating transfer area (m ²)	1.3	2.1	2.1	3.8	4	5.8	7.3	9.7	11.5
减速机功率 Reducer power(kw)	1.1	1.5	2.2	3	3	4-4.5	5.5-7.5	7.5-11	11-15
转速 Speed (r/min)	0-121	0-121	0-121	0-121	0-121	0-121	0-121	0-121	0-121



NF可倾式、立式夹层锅

NF TILTING-TYPE & VERTICAL TYPE JACKETED POT

用途

可倾式、立式夹层锅为常压敞口式提取或浓缩锅，由锅内内胆与外壳支脚组成。锅内放药材或药液，于进气口通入蒸汽，夹套加热，浓缩完成后将药液从底部出口放出，符合（GMP）标准要求。

Use

Tilting & vertical type jacketed pot is atmospheric pressure open type extraction or concentration pot, constitute with the pot body inner and shell feet. Feeding herbs or liquid into the pot, connect steam with the inlet, jacket heating, discharge the liquid from the bottom exit after the concentration is completed, meet (GMP) standards.



技术参数 Technology parameter

型号 Type	NF-I	NF-II	NF-III	NF-IV	NF-V
容积 Volume (L)	59	73	142	217	345
蒸气压力 Steam pressure (Mpa)	≤0.25	≤0.25	≤0.25	≤0.25	≤0.25
最大可倾角度 Maximum tilt angle	180°	180°	180°	180°	180°
外形尺寸 Dimensions (mm)	680x850	710x870	850x1100	950x1150	1100x1300
重量 Weight (kg)	180	250	300	350	400
备注 Notes	原为NF-50	原为NF-100	原为NF-200	原为NF-300	原为NF-500

NX型浓、稀配罐

NX PREPARATION TANK



特点

本系列浓、稀配罐设计合理。罐体采用立式单层或双层结构，外部采用镜面板或磨砂板保温。夹层内缠绕螺旋带通蒸汽加热或通冷水冷却并充填保温材料。罐体顶部设进水口、加料口、回流口、消毒口、清洗球、入孔，并安装0.22um空气呼吸器及搅拌系统。罐体底部设出水口、排污口、取样口、温度探头、液位传感器。可配控制柜操作，检测药液温度并显示，恒温控制液位高度并显示，提供上、下限报警等功能。

Feature

This series of Preparation Tank has reasonable design, advanced technology, meet national GMP certification requirements. Tank body adopts vertical double-layer structure, liner polishing Ra0.45, external uses mirror panels or matte board to keep insulation, tank gloss is consistent. Interlayer twine spiral-band, connect with steam heating or cold water and filling insulation material, components where had been passed are used 316L material, the rest are used 304L material. Head of up and down inside the tank is dish type, using partial wall axial flow stirred, there are intake, feed port, the return flow port, disinfection port, cleaning ball, manhole located at the top of tank, and also install air breathing apparatus and 0.22 um mixing system. There are outlet, sewage outlet, sampling port, temperature probe, liquid level sensor located at the bottom of the tank. Operation control cabinet can be equipped to detect liquid temperature and show, a high level temperature control and display, to provide upper and lower limit alarm functions, meet(GMP) standards.

ZRP双联过滤器

ZRP DOUBLE-LINKED FILTER



用途

本机用于中药、西药、果汁、糖汁、牛奶、饮料等液体，肉眼看不见的各种杂质进行过滤，两只过滤器交替使用，可不停机清洗过滤网，可长期连续生产使用，符合（GMP）标准要求。

Use

This machine is used for Chinese medicine, Western medicine, juice, sugar juice, milk, drinks and other liquids, filters all kinds of invisible sundries, two filters are used in turn, can do cleaning without stop, can product continuously for a long time, meet(GMP) standards.

技术参数 Technology parameter

规格 Specification (m ²)	0.15	0.25	0.35
流量 Flow (t/h)	2	5	10
外形尺寸 Dimensions (mm)	1050x420x1087	1300x500x1100	150x550x1200
滤网规格80-200目，根据用户要求定配。Size of filter net 80-200 mesh, can be equipped according customer's requests.			

QN-250~2000型球形浓缩罐 QN-250~2000 TYPE SPHERICAL CONCENTRATION POT

ZN-300~2000真空减压浓缩器 ZN-300~2000 TYPE VACUUM REDUCED PRESSURE CONCENTRATOR

概述

本设备适应于中药、西药、食品、葡萄糖、果汁、糖果、化工等液料的真空浓缩、结晶、收膏、蒸馏、酒精回收。本设备主要由浓缩罐主体、汽液分离器、冷却器、收集器等四个主要部分组成，采用不锈钢制成，符合(GMP)标准要求。本设备仪表、视镜配备齐全，打开人孔即可清洗，更换品种方便。

Overview

The device adapted to traditional Chinese medicine, Western medicine, food, glucose, fruit juice, candy, chemical to do liquid materials vacuum concentration, crystal, extract, distillation, alcohol recovery. The equipment consists mainly of the main concentrator, vapor-liquid separator, cooler, collector four main parts, made of stainless steel to meet (GMP) standard. The equipment is equipped with fully meters and sight glasses, open 400 holes that can be cleaned easily, easy to change varieties.



技术参数 Technology parameter

型号 Type	QN250	QN500	QN1000	QN1500	QN2000
容积 Volume (m ³)	250	500	1000	1500	2000
夹套压力 Jacket pressure (Mpa)	≤0.25				
浓缩比重 The ratio of concentration	1.3-1.35				
真空度 Vacuum degree (Mpa)	-0.08-0.09				
蒸发能力 Evaporating capacity (kg/h)	70	100	200	300	400
加热面积 Heating area (m ²)	1.1	1.5	3.1	4	5
冷凝面积 Condensation area (m ²)	3	4	8	13	20
外形尺寸(长x宽x高) Outer size (LxWxH)(mm)	2100x1200x2500	2100x1200x2500	2035x1500x2765	2500x2300x4550	3000x2600x4800

结构特点

本设备采用不锈钢材料制造，结构紧凑，外形美观，本设备冷凝器为列管式，冷却器为蛇管式，如浓缩度较高的情况下采用搅拌混合或动态提取，其效果更佳。设有自动排水装置，蒸发出来的冷凝水能自动排水。

Structural Features

The device consists of four series of specifications (see technical data), all made of stainless steel material, compact structure, beautiful appearance, the condenser of equipment tube type, cooler is coil type, the effect is better if use mixing or dynamic extraction in high enrichment condition. Setted automatic drainage device, condensate water from evaporation can drains out automatically.

工作原理

物料抽入浓缩罐内，利用夹套通蒸汽进行加热，加料高度以达到罐体视镜中心为宜，上升的蒸汽由第一冷凝器控制回流量，根据不同物料控制罐内温度夹带的泡沫及部分高沸点液体从气液分离器分离返回浓缩罐内，对于工业溶剂(酒精)经第二冷凝和冷却器最后在受液槽取得。

本设备可以常压或减压生产，可以间歇或连续生产，当连续生产进料时其进料管应加流量计，在连续减压生产过程中对浓缩罐出料要先使罐内恢复常压后方能出料，符合(GMP)标准要求。

Working principle

Pump material into the concentrator, use jacket connect with steam to heat, take the endoscopic center in the tank as the high degree of feeding, control the the back flow of rising steam through the first condenser, according to different materials to control bubble and some of the high boiling point liquid which carried by in-tank temperature separate from the gas-liquid separator tank back to concentrator, for industrial solvents (alcohol), finally get them from the liquid receiver tank through the second condenser and cooler.

This equipment can produce in ordinary pressure or reduced pressure, can product intermittently or continuously, feeding when product continuously the feeding tube should add flow meter, in a continuous process of decompression, discharge of the concentrator, should recover the ordinary pressure at first, meet (GMP) standards.

用途

本设备主要适用于制药、食品、保健品、口服液、饮料、轻工等工业液体物料的浓缩蒸馏，并可用于回收酒精及其它溶剂的简单回流提取。

Use

This equipment is mainly used for pharmaceutical, food, health care products, oral liquid, fruit juice industry, light industry to do concentration and distillation of liquid materials, can be used to recover alcohol and simple reflux extraction of other solvents.

技术参数 Technology parameter

型号 Type	300	500	700	1000	1500	2000
容积 Volume (m ³)	300	500	700	1000	1500	2000
蒸汽压力 Steam pressure (Mpa)	≤0.25	≤0.25	≤0.25	≤0.25	≤0.25	≤0.25
真空度 Vacuum degree (Mpa)	-0.08-0.09	-0.08-0.09	-0.08-0.09	-0.08-0.09	-0.08-0.09	-0.08-0.09
加热面积 Heating area (m ²)	1.1	1.45	1.8	2.3	3.4	4.5
冷凝面积 Condensation area (m ²)	3	3.2	3.6	4.5	5.5	6.5
冷却面积 Cooling area (m ²)	0.6	0.7	0.85	1.1	1.5	1.8
受液槽容积 The volume of liquid-accepted trough (L)	76	100	125	140	300	500
外形尺寸(长x宽x高) Outer size (LxWxH) (m)	1.7x1x3	2.1x1.2x3.2	2.4x1.3x3.4	2.4x1.4x3.8	2.6x1.4x4	2.8x1.5x4.3

SJZ-1000~20000系列多效降膜蒸发器

SJN-1000~20000 SERIES MULTI-EFFECT FALL-FILM EVAPORATOR



主要特点

1. 传热快、节省能耗。本机组是一种高效节能浓缩装置，可组成双效、三效、四效及五效蒸发系统，热能得到充分利用，蒸汽耗量低，一公斤蒸汽可以蒸发四公斤水。一效蒸发通过喷射式热泵进入，经过喷射式热泵后，压力（压力能）变成速度（动能），这样蒸发器壳程实际在真空状态下工作。一效蒸汽尾气进入预热器，预热料液部分二次蒸汽经喷射式热泵重新进入一效，热量利用充分。
2. 浓缩比大（1/5-1/10），粘度范围广（<400cp）由于是降膜蒸发，料液沿管壁呈膜态自上而下流动，由于重力作用，使粘度较大的溶液也易于流动蒸发而不会结焦。
3. 本机组可采用顺流连续加料法，亦可采用逆流或混流加料法。顺流加料时溶液的流向与加热蒸汽的流向相同，原料经预热器预热至沸点后进入第一效。逆流加料时原料由最后一效进料，由第一效出料。
4. 本机组可以手动控制，也可以采用半自动、全自动控制。采用全自动控制时，蒸汽压力、各控制点温度、各室液位、真空度、料液比重等各项工艺参数通过传感器反馈至计算机控制系统，操作人员在控制室通过计算机对各项工艺参数进行控制。
5. 该机组可以根据不同物料、不同工艺需要选用不同材料，如采用TA2钛材、1Cr18Ni9Ti等不锈钢材料、普通碳钢（与物料接触表面涂以特殊的防腐防锈涂料）。对于污水处理等工作环境，我厂经反复试验，采用特殊工艺在普通碳钢表面涂以防腐防锈涂料，可以大大节省设备投资费用，实为污水处理站等客户的首选产品，符合（GMP）标准要求。

概述

多效降膜蒸发器采用降膜式蒸发原理将稀溶液加热沸腾使其中部份水分汽化而达到浓缩溶液的目的。本机组是我厂研制改进的一种新型产品，各项技术指标达到国际先进水平，与传统蒸发器相比，具有成本低、易操作、性能稳定等优点。广泛应用于食品加工、果汁浓缩、饮料生产、乳品生产、化工行业、废水处理、环保工程等领域。

Overview

Multi-effect Fall-film Evaporator adopts falling film evaporating principal to heat the dilute solution up to boiling, making some part of water vaporize to attain the purpose of concentrating solution. This set of device is a new production through our operational development with each technical index up to international advanced standards. By comparison to traditional evaporator, our product is widely applied to in suchfields as food processing, juice concentrate, drinking production, dairy production, chemical industry, pharmaceutical industry, waste water treatment and environmental project etc, having advantages of low cost, easy operation and stable performance over traditional evaporator. Main characteristiits are stated as follows:

1. Burst heat transmission and energy-saving. As a high efficient energy-saving concentration equipment, the evaporator can be assembled into two-effect, three effect, four-effect and five-effect evaporation system, fully utilizing the heat energy with low steam consumption. Just only one kilogram steam can evaporate four kilogram water. One effect evaporator shell works under vacuum state by conversion from pressure energy transfer to kinetic energy as a result of passing by jet heat pump. The tail steam of one-effect enters into pre-heater with some secondary steam of the preheated liquid pumped into one-effect again by jet heat pump, making maximum use of heat.
2. High Concentration Ratio(1/5/1/10), wide viscosity area(<400cp)Due to the falling film evaporation, the liquid film flows from top to bottom along the pipe wall. What's more, owing to the gravity, the solution with high viscosity flows and evaporates easily without coking.
3. The equipment can adopt downstream continuous feeding, as well as upstream or mixed-flow feeding. When adopting down-stream feeding, the flow direction of solution is the same to the heating steam, and the material enters into the one-effect. However, when adopting up-stream feeding, inlet the material from the last effect while outlet from the first effect.
4. The equipment can be controlled manually, as well as semiautomatically or automatically. When controlled automatically, the technological parameters such as steam pressure, the temperature of each control point, liquid level, vacuum degree and feed liquid gravity etc, feedback their value to computer control system through the sensor, so the operator can control these parameter by computer in the control room.
5. The equipment can be made of different kinds of material according to different materials and technological demands, such as TA2 Titanium, 1Cr18Ni9Ti stainless steel, ordinary carbon steel(surface contacting with material is bedaubed with special antiseptic and antirust paint). Under the condition of wastewater treatment, bedaub the surface of ordinary carbon steel with special antiseptic and antirust paint can save a large sum of device investment, which have been tested by our factory repeatedly. So the equipment is really a preferred product for the wastewater treatment station, meet(GMP)standards.

三效技术参数(三效降膜为例) 3 Effect technology parameter

蒸发能力 Evaporation capacity(kg/h)	1000	3000	6000	10000	20000
蒸汽耗量 Steam Consumption(kg/h)	400	1200	2400	4000	8000
耗水量 Water Consumption(t/h)	30	70	140	200	450
耗电量 Power Consumption(Kw)	13	27	55	80	155
蒸汽压力 Steam Pressure(Mpa)	0.09-0.7				
真空度 Vacuum Degree(Mpa)	-0.08--0.09 三效分离器 0.09 Three-effect separator 0.09				
外形尺寸 Outer Dimension(m)	4.5x2.5x7.5	5.5x6x11	9.5x3.5x12	12x4x13.5	15x4.5x16

普通碳钢特殊防腐防锈涂层的物理特征、对环境的抵抗性能

The Physical Characteristics and Resistance to Environment(the Special Antiseptic and Antirust Paint of the Ordinary Carbon Steel)

耐磨性 (ASTM-C-501标准), 1kg重物/1000转 Abrasion Resistance(ASTM-C-501 standard), 1kg object/1000 r.p.m	0重量损失 No weight loss
抗冲击性 Shock Resistance	11M/kg
伸缩力 Yield Force and Tensile Force	>5200psi
张力 Stretching Force	>3200psi
延伸率 Coefficient of Extension	79%
可燃性 Flammability	自然阻燃 Self Flame Resistance
抗细菌及真菌性 Resistance to Bacterial and Fungal Attack	0成长 No Growth
抗盐雾1000小时, 37°C Salt and Fog Resistance 1000 Hours,37°C	0成长 No Growth
吸水性 Water Absorption	不超过0.0001 Less than 0.0001
孔隙度 Degree of Porosity	0.00无针孔 Without Pinhole
耐高温性 Resistance to Elevated Temperature	315°C

CZC型中药除渣机组

CZC TYPE CHINESE MEDICINE DREG DISCHARGING SYSTEM

系统组成及其特点

CZC型中药除渣机组是我公司针对中药提取工艺研制开发的一种清理中药废渣的成套设备。其完善的可靠性设计，简洁、可靠极富操作性的控制模式、整机的全封闭外观结构，保证了系统的运行可靠、操作简单、卫生清洁、解决了多年来中药废渣难以清运及污染环境的难题。同时，由于成套输送设备及控制系统的采用，改变了传统中药制药企业中药废渣的处理模式，由人工处理转向机控处理，极大的减轻了劳动强度，提高了安全性能，保护了环境卫生，符合GMP标准，是目前中药提取生产企业用于中药废渣处理的首选设备，出渣车挤出来的药渣可根据用户需求即回收。

出渣车通常配套渣仓、传送带同时使用，我公司可根据用户的楼层使用情况进行设计、制造、安装。当提取罐有排渣请求时，提取罐控制装置发出排渣信号给出渣系统控制装置(或现场人工指示)，出渣系统控制装置启动挤渣车从初始位运行至需要排渣的提取罐下方，到达正确位置停稳后，将反馈一个信号给出渣系统控制装置(或现场人工指示)，证明已到位，除渣系统控制装置将该信号反馈回提取罐控制装置(或现场人工指示)，控制提取罐打开排渣门，将中药废渣装入除渣车内，装载并清洗完毕后，关上排渣门，提取罐控制装置发出信号给出渣系统控制装置(或现场人工指示)，除渣系统控制装置将启动挤渣车向储渣仓装载口方向运行，待挤渣车前边挡块将储渣仓装载口封门推开，挤渣车卸料口与储渣仓装载口对正后，发出信号给除渣系统控制装置(或现场人工指示)，证明已到位，控制装置将控制挤渣车启动出料装置和气动挤压装置挤排料，打开卸液阀，将中药废渣装在储渣仓内，挤出的渣液排放到对应的渣液排放管中。待出料完成后，关闭出料装置和卸液阀。若仍有提取罐需排渣，则重复前述步骤，直到提取罐无排渣请求后，挤渣车自动运行至初始位停稳。

通过人机画面动态显示中药废渣积累到一定程度后，输送汽车到已装载满仓的储渣仓门下方停稳，控制打开储渣仓仓门，将中药废渣装在运输汽车上，储渣仓仓门可依次启动，以适应不同运输汽车的装载要求，待运输汽车装满后，依次关闭储渣仓仓门，启动运输汽车，将中药废渣运至厂外垃圾处理厂。出渣车自带水箱，可对提取罐底部及罐盖、进行自行清洗，另配有高压水枪，可进行手动清洗。

Composition and Feature

CZC type Chinese medicine Dreg Discharging System is complete sets of equipment of our company technology to clean up the waste herb of traditional Chinese medicine after extraction. Its perfect reliability design, simple, reliable and operable control mode, the whole closed appearance structure of the whole machine, to ensure the reliable operation of the system, simple operation, sanitary and clean, to solve the years problems of traditional Chinese medicine waste herb difficult to clearance and environmental pollution. At the same time, due to the use of complete sets of conveyor equipment and control system, it changed the traditional Chinese medicine pharmaceutical enterprises Chinese Medicine waste herb treatment mode, by manual treatment steering to machine control treatment, greatly reduce the labor intensity, improve safety performance, protect environmental health, in line with GMP standards, It is the preferred device of current Chinese medicine extraction and production enterprises to used in traditional Chinese medicine waste herb treatment, and the wasted herbs extruded out of the Dreg Discharging System can be recycled according to user needs.

The Dreg Discharging System usually supporting the use of dreg silo, conveyor belt at the same time, our company can design, manufacture, installation based on the user's floor usage situation. When the extraction tank has a waste herb discharge request, the extraction tank control device issues a waste herb discharge signal to the Dreg Discharging System control device (or field manual instruction), the Dreg Discharging System control device starts the dreg extruder from the initial position to the bottom of need to drain extraction tank, stop after reach the correct position, then will feedback a signal to the Dreg Discharging System control device (or field manual instructions), to proof it is in place. The Dreg Discharging System control device will feed the signal back to the extraction tank control device (or field manual instruction), control the

extraction tank to open the dreg door, transfer the waste herb into the dreg extruder, load and clean, close the dreg door, the extraction tank control device to send a signal to the Dreg Discharging System control device (or field manual instruction). The Dreg Discharging System control device will start the dreg extruder to run in the direction of the loading port of the dreg silo, when the front block of the dreg extruder push away the seal of the dreg silo, the discharge port of the dreg extruder match to the loading port of the dreg storage silo, and send signal to the Dreg Discharging System control device (or field manual instruction), to proof it is in place. The Dreg Discharging System control device will control the dreg extruder to start the discharge device and pneumatic extrusion device to squeeze and discharge, open the discharge valve, load the waste herb in the dreg storage silo, the extrusion of the dreg liquid into the corresponding liquid discharge pipe. When the discharging is completed, close the discharge device and the discharge valve. If there is another extraction tank to be discharged waste herb, repeat the preceding steps until the extraction tank does not have a dreg removal request, the dreg extruder automatically runs to the initial position to stop stable.

Through the dynamic display of HMI screen, when the accumulation of waste herb to a certain volume, the transport car to the bottom of the dreg silo, control open the dreg silo door, load the waste herb into the transport car, the dreg silo door can be activated in turn, in order to adapt to the loading requirements of different transport vehicles, after the transport of vehicles filled, and then close the dreg silo door in turn, start the transport car, the Chinese medicine waste herb will be shipped to the waste treatment plant outside the factory. The dreg extruder has its own water tank, which can use for auto cleaning the bottom and dreg door of the extraction tank, and also equipped with a water cannon, which can be cleaned manually.



产品类型 Product Type	装料量 Capacity (m ³ /batch)	除渣量 Dreg Discharge Volume (m ³ /min)	主电机功率 Main Motor Capacity	外形尺寸 Dimension (mm)	主轴转速 Spindle Speed	行走速度 Travel Speed	行走电机功率 Travel Motor Power	净重 Net Weight
CZC-3m ³	2.4	0.6~0.7	15kw	4500×2300×2000(H)	24rpm	35m/min	2.2kw	4000kg
CZC-5m ³	4	0.7~0.8	18.5kw	5100×2500×2200(H)	22rpm	30m/min	2.2kw	5500kg
CZC-7m ³	7.2	0.8~1.0	22kw	6500×2600×2500(H)	20rpm	25m/min	3kw	7500kg

BG系列高效智能包衣机

BG SERIES HIGH-EFFICIENCY INTELLIGENT COATING MACHINE



用途

本机广泛用于制药、食品、生物制品等领域，可为各种片剂、丸剂及糖果等包制各种薄膜衣(有机薄膜、水溶薄膜)、糖衣，具有整机美观、高效、节能、符合(GMP)标准要求等诸多优点。

Use

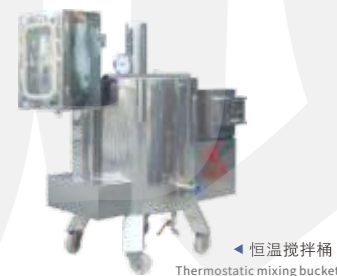
BG Series High-Efficiency Intelligent Coating Machine can be widely used for coating various tablets, pills and sweets with organic film, water-soluble film and sugar film etc. In such fields as of pharmaceutical, food and biological products etc, and it has following characteristics such as good appearance in design, high efficiency, low energy consumption and in accordance with GMP.

主要结构

- 1、主机：包衣过程无粉尘飞散、无浆液飞溅，改善了作业环境，药品交叉污染小，药品包衣工艺简单，提高了生产效率。采用工业可编程控制器(PLC)加触摸屏控制系统，可自动调节进风温度、滚筒转速等工艺参数，以相同的工艺参数生产不同批次的产品，各批次产品之间差异为零。
- 2、热风机：空气经离心风机吸入，通过初、中、高效三级过滤达10万级净化，经加热器(蒸汽或电加热)加热，送入主机滚筒内对素药进行干燥；噪音低于70分贝。
- 3、排风机：用于对主机滚筒进行抽风使工作区域保持负压，设有过渡装置、粉尘震动除尘装置、粉尘收集装置，整机工作噪音低于90分贝。
- 4、有气喷雾系统：由蠕动泵、有气喷枪(日本进口)及物料连接管组成，用于对包衣介质的雾化。包糖衣配滴管装置。
- 5、电加热恒温搅拌桶：用于对薄膜包衣介质的配置，由液晶触摸面板、电加热系统、气动马达搅拌系统等组成。

Main Structure

1. Main Machine: During the film coating process in the major machine, it shows such features just as no dust fly off and no syrup splash, operation condition improvement, little cross contamination to tablets, simple coating process, coating time shortening as well as high production efficiency etc. The main machine adopts programmable controller(PLC)and touch screen system, which can adjust inlet air temperature, rotational speed and other technological parameters automatically, making no difference between various batches products with the same technical parameter.
2. Hot air cabinet: Firstly, air inhaled in through the centrifugal fan should be purified up to the 100000 Level after three times filtration, involving primary filtration, medium filtration and high filtration, then be heated by heat exchanger(steam or electric heating), finally, be blown to the drum of main machine to dry the tablets, the noise of which is less than 70 decibel.
3. Air Exhaust Cabinet: Used for pumping air out of drum from the main machine, making the working area under the negative pressure and equipped with filtrating device, dust removal system and dust collecting system. The operating noise of the whole cabinet is less than 90 decibel.
4. Air spray system: The system is made up with peristaltic pump, air spray gun (imported from Japan) and material connecting line, used for atomizing coating mediums. When coating sugar film, it should be equipped with the dropper.
5. Electric heating thermostatic stirrer: It is used for preparing the film coating mediums, composed by liquid touchable plate, electrical heating system, pneumatically motorized stirring system and so on, meet(GMP) standards.



◀ 恒温搅拌桶
Thermostatic mixing bucket

技术参数 Technology parameter

型号 Model	BGB10	BGB75	BGB150	BGB350
最大载重 Max load(kg)	10	75	150	350
主机功率 Mainframe power(kw)	0.55	1.1	2.2	3
滚筒转速 Roller rotate speed(r/min)	4-30	3-20	2-16	2-12
主机重量 Mainframe weight(kg)	350	700	900	1200
主机外形尺寸(长×宽×高) Mainframe form size(L×W×H)(mm)	1100×750×1540	1350×1010×1360	1570×1260×1950	2800×2000×2200
高效过滤热风机功率 Hot air machine power(kw)	0.25	0.75	1.1	1.5
高效过滤热风机外形尺寸(长×宽×高) Hot air machine form size(L×W×H)(mm)	620×750×1540	1100×900×2040	1100×1150×2100	1200×1200×2200
高效过滤热风机重量 Hot air machine weight(kg)	150	200	500	800
除尘排风机功率 Dust removal exhaust fan power(kw)	1.5	3	5.5	5.5
除尘排风机外形尺寸(长×宽×高) Dust removal exhaust fan form size(L×W×H)(mm)	700×800×1950	890×800×1950	890×1000×2080	890×1000×2200
除尘排风机重量 Clean dust air outlet machine weight(kg)	200	250	500	800
蒸气电热二用保温搅拌桶功率 Power of thermal blender (steam/electric heating)(kw)	1.5	2.2	2.7	3

CIP在线自动清洗系统

CIP ON-LINE AUTOMATIC CLEANING SYSTEM

系统组成及其特点

CIP在线自动清洗工艺是通过CIP管道与需清洗的设备直接相连，清洗中避免了二次污染。

工艺主要以下几步：

- 1、热水冲洗(加热通过板框或夹套加热)：将待清洗罐或管道中的残留物及泡沫等冲洗掉；
- 2、热碱水洗(加热通过板框或夹套加热)：将第一步中未冲洗掉的残留物以及油类通过一定浓度的热碱水浸泡、冲洗，去除较难清洗的物质；
- 3、纯化水冲洗(加热通过板框或夹套加热)：可以用纯化水将第二步中碱液冲洗掉；三个清洗步骤中，若想省去其中的一个步骤，可直接将该步的清洗时间设为零。在第三步纯化水洗时对电导率进行检测，当连续检测合格时，可进行直排，电导率检测不合格的清洗液进行酸碱中和处理，继续进行清洗，直到最后清洗液电导率检测合格为止。

清洗时可手动运行，也可自动运行。手动运行主要是在局部清洗或自动清洗没洗干净时再次加强清洗；自动运行是在一个批次生产完成之后一次性清洗。

本系统控制单元内核采用高品质的西门子S7-200 PLC,具有一流的数据控制精度和稳定性。

Composition and Feature

CIP Online Automatic Cleaning System is directly connected to the need to clean equipment through the CIP pipelines, which avoid secondary pollution during cleaning. The process is dominated by the following steps:

- 1.Hot water flushing (heating through the plate heat exchanger or jacket heating): Rinse off residues and foams in the tank or pipes to be cleaned;
- 2.Hot alkali washing (heating through the plate heat exchanger or jacket heating): The first step is soak and flush the residue and oil which is not rinsed off with a certain concentration of hot alkali water, to remove the more difficult to clean material;
- 3.Purified water flushing (heating through a plate heat exchanger or jacket heating): Use purified water to rinse off the alkali liquor in the second step;

In the three cleaning steps, if you want to omit one of these steps, you can set the cleaning time of the step directly to zero. Test the electrical conductivity in the third step of purified water washing, when continuous testing qualified, can be drain directly; If the conductivity detection is unqualified, use acid and alkali to treat, and continue to clean until the final cleaning fluid conductivity test qualified.

It can be run manually or automatically when cleaning. Manual operation is mainly used in the partial cleaning or strengthen cleaning when the automatic cleaning is not washed clean; Automatic operation is a one-time cleaning after a batch of production is completed.

The control unit kernel of this system adopts high quality Siemens S7-200 PLC, which has first-class data control precision and stability.



MH系列万向混合机 MH SERIES THREE DIMENSIONAL MIXER



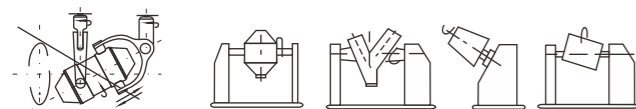
专利号: ZL03221331.X
Patent Number: ZL03221331.X

工作原理

该机在工作时，由于混合桶具有多方向的运转，使物料在混合过程中加速了流动和扩散作用，避免了一般混合机因离心力作用所产生的物料比重偏析和积聚现象，保证混合均匀、无死角。

Working Principle

During the operation of the mixer, the drum rotates with multi direction, accelerating the flowing and diffusion of the material. In addition, compared with general mixer, it avoids the weight proportion deflexion and accumulation under a non-centrifugal force, guaranteeing uniform mixing and no dead corner.



技术参数 Technology parameter

型号 Model	MH-5	MH-100	MH-200	MH-400	MH-600	MH-800	MH-1000	MH-1500
混合桶容积 Mixed barrel volume (L)	5	100	200	400	600	800	1000	1500
最大装料容积 Max loading capacity (L)	4	80	160	320	480	640	800	1250
转速 Rev (r/min)	24	15	15	12	12	10	10	10
电机功率 Power (kw)	0.75	1.5	3	4	5.5	7.5	11	15
外形尺寸(长x宽x高) Outer size (LxWxH) (mm)	600x100x100	1200x1800x1500	1300x1900x1500	1500x2200x1600	1850x2300x1650	1900x2400x2100	1950x2500x2400	2000x2700x2600
重量 Weight (kg)	150	500	750	1200	1500	1600	1700	2000

用途

该机是一种广泛用于制药、化工、食品、冶金、轻工等行业及科研单位中的新颖干物料混合机。能非常均匀地混合流动性较好的粉状及颗粒状物料，使混合后的物料达到最佳品质。

Use

It is suitable for medicine (Chinese herbal medicine and Western medicine, preparation), chemical industry (industrial chemicals, dye and coating materials), light industry (foodstuff, plastic), agriculture (seed treatment, feed additives) and other materials that need to be mixed, which can uniform mix the powder with high fluidity and granular material, making the material reach up to the best quality.

特点

- 1.混合均匀度高、混合时间短，混合均匀度可达99.9%。
- 2.装料系数可达体积比的80%，是一般混合机的两倍。
- 3.回转空间低，厂房一般不需要跃层。
- 4.桶内外镜面抛光处理，无死角，清洗彻底。
- 5.自动刹车定位控制系统，出料彻底、不积料、不剩物料。
- 6.独有从动轴摆臂专利技术(消除积累误差)，彻底解决该机运转产生的三维峰值应力问题，运行平稳，噪音低，使用寿命长，符合(GMP)标准要求。

Feature

1. Good mix effect, short mix time, and the mix uniformity reaches as high as above 99.9%.
2. With large loading coefficient, reach up to 85% of the volume ratio, is 2 times of the general mixer.
3. Low in height, small in rotation space. Commonly, no special construction is needed, easy to clean.
4. Special drum design with easy feeding and discharging, no dead angle and remnant.
5. Automatic braking positioning control system, the discharge is thorough, not product materials, not surplus materials.
6. Unique driven shaft swinging arm patent technology, can resolve the problem of 3D peak stress resulted by the machine operation, operate smoothly, low noise, long service life, meet (GMP) standards.

HF系列方锥型混合机 HF SERIES SQUARE CONICAL MIXER



Feature

1. The whole machine has novel design, compact structure, beautiful appearance, degree of homogeneity reaches 99%, volume loading coefficient reaches 0.8.
2. Low height of rotation, smooth operation, reliable performance, easy to operate.
3. Walls (both outside and inside) of barrel body are mirror polished, no dead angle, easily discharge material, easy to clean, without cross-contamination, meet (GMP) standards.

工作原理

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。

Working principle

Feed the material into square conical sealed mixing barrel, symmetry axis and rotary axis of hoppers form an angle, the material of different components in the sealed hopper do three-dimensional space motion, produced a strong rolling-over and contraction and diffusion effects, reaches the best mixed results.

技术参数 Technology parameter

型号 Model	HF-300	HF-500	HF-1000A	HF-1500A	HF-2000A	HF-3000A
混合桶容积 Volume of mixing bucket (L)	300	500	1000	1500	2000	3000
最大装料容积 Max volume of loading (L)	240	400	800	1200	1600	2400
最大装料重量 Max loading weight (kg)	150	250	500	750	1000	1500
主轴转速 Spindle speed (r/min)	14	13	12	10	10	8
电机功率 Power (kw)	1.5	2.2	4	5.5	7.5	11
参考重量 Weight (kg)	600	750	1200	1650	2000	3000
外形尺寸(动态)(长x宽x高) Outer size (dynamic) (LxWxH) (mm)	1850x1280x1980	2200x1530x2220	2800x2000x2820	2930x2330x3355	3300x2550x3480	3800x3000x3800

CSJ型粗碎机 CSJ TYPE ROUGH MILL



用途

该机适用于制药、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、铜丝等进行粉碎，也作为微粉碎加工前道工序的配套设备。

Use

It applies to pharmaceutical, chemical, metallurgy, food, construction and other industries. Ont only processing hard grinding materials, including smash plastic, copper, etc., but also as the ancillary facilities before the working procedure of micro-smashing process.

特点

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较好的粉碎效果。

Feature

This machine adopts vertical crushing institution. Don't affect by material viscosity, hardness, softness and other restrictions, play a good grinding effect for any materials.

技术参数 Technology parameter

生产能力 Production capacity (kg)	100-500
进料颗粒尺寸 Feed particle size (mm)	≤100
出料颗粒尺寸 Exit particle size (mm)	5-20
主轴转速 Speed of main shaft (r/min)	960
功率 Power (kw)	4
工作噪音 Working noise (db)	<80

ZF整粒粉碎机 ZF CONORMITY PULVERIZATION MACHINE



特点

该机具有低粉尘、低热量、低噪音、易清洗、体积小、颗粒度均匀，效率高、转速高、调速范围大，一机多用。能处理粘稠性，热敏性强，流动性差，湿度性高，树胶状及带油脂的物料。还具备制粒目数范围大等优点，符合(GMP)标准要求。

Feature

This machine has low dust, low calorie, low noise, easy to clean, small in size, uniform particle size, high efficiency, high speed, large speed range, multi-purpose in one machine. Can handle materials with viscous resistance, strong heat-sensitive, poor mobility, high humidity, gumminess and oil-contained. Also has the advantages of a large range of mesh, meet (GMP) standards.

技术参数 Technology parameter

型号 Model	ZF-150	ZF-300	ZF-500	ZF-700	ZF-1000
最大产量 Maximum yield	10-150	30-300	50-500	80-700	110-1000
电机功率 Motor power (kw)	0.75	1.1	2.2	3	4
调速范围 Speed range (r/min)	变频调速60-2850 Frequency 60-2850				
粒度 Granularity	6-80				
外形尺寸(长x宽x高) Dimensions (LxWxH) (mm)	900x425x1470				



FL30B万能粉碎机 FL30B UNIVERSAL PULVERIZER



用途

本机适用于医药、化工、食品等行业脆性物料的粉碎，用途极为广泛，符合(GMP)标准要求。

Use

The machine is extensively used in pharmaceutical, chemical, food for pulverizing dry brittle materials, meet(GMP) standards.

技术参数 Technology parameter

型号 Type	FL30B	FL40B
生产能力 Production capacity (kg/h)	100-200	150-500
粉碎细度 Finness of pulverization (mesh)	80-120	80-120
进料粒度 Inlet material dianeter (mm)	<φ12	<φ12
活动齿盘直径 Diameter of movable fluted disc (mm)	<φ300	<φ500
主轴转速 Speed of main shaft (r/min)	3800	3400
电机功率 Motor power (kw)	5.5	7.5
外形尺寸(长x宽x高) Outer size (LxWxH) (mm)	1100x600x1480	1300x500x1680

XZS-系列震荡筛 XZS-SYST VIBRATING SCREENS



结构与性能

本机由料斗、室、联轴器、电机组成。震荡室内有偏心轮、橡胶软件、主轴、轴承等组成。可调节的偏心重锤经电机驱动传动到主轴中心线，在不平衡状态下，产生离心力，使物料强制改变在节内形成轨道漩涡，重锤调节器的振幅大小可根据不同物料和筛网进行调节。整机结构紧密、体积小、不扬尘、噪音低、产量高、能耗低、移动、维修方便，符合(GMP)标准要求。

Structure and Feature

The machine consists of hopper, chamber and coupling and motor. Oscillation indoor eccentric wheel, rubber software, main shaft, bearings and other components. The adjustable eccentric weight fixed by the motor footer pass through to the spindle center line, in the unbalanced state, produces centrifugal force, to force change in section material form vortex, the size of hammer amplitude modulator according to different materials and screen network of regulation. Close the whole structure, small volume, o dust, low noise, high output, low energy consumption, mobile, and easy maintenance, meet(GMP)standards.

用途

XZS型系列震荡筛适应于流水作业，是粗细颗粒分离过筛，连续出料的理想设备。

Use

XZS series oscillating sieve suitable for in line is the rough protection of small particles ranging from festivals continuous discharge of the ideal.

技术参数 Technology parameter

型号 Type	XZS-350	XZS-515	XZS-650
生产能力 Copacity(kg/h)	60-500	60-1300	180-200
电机功率 Power (kw)	0.55	0.75	1.50
主轴转速 Main shaft speed(r/min)	1380	1370	1370
外形尺寸 Outer size(mm)	540×540×1060	710×710×1290	880×880×1350
参考重量 Weight(kg)	100	180	250

SHK-10~300型湿法混合制粒机 SHK-10~300 TYPE WET-PROCESS MIXING GRANULATOR

ZDG系列 真空带式干燥机(液体) ZDG VACUUM BELT-TYPE DRYER



用途

本机适用于对粉状物粒进行混合和制粒，可广泛地用于医药、食品、化工、轻工等行业。

Use

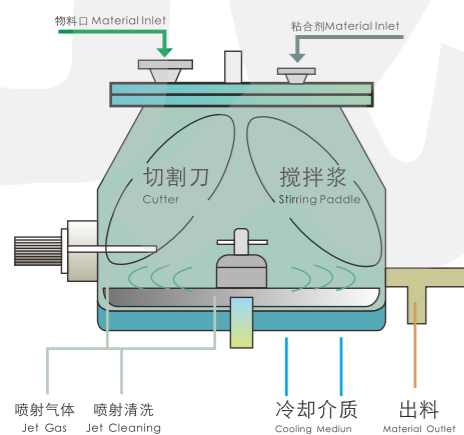
This machine is applied to the powder particles mixed and granulating can be widely used in medicine, food, chemical and light industries.

工作原理

本机的造粒过程是由混合及制粒两道工序在同一容器中完成，粉状物料在固定的锥形容器中，由于混合浆的搅拌作用，使粉料碰撞分散呈半流动的翻滚状态，并达到充分的混合，随着黏合剂的注入，使粉料逐渐湿润。物料形状发生变化，加强了混合浆和筒壁对物料的挤压，摩擦和捏合作用，从而形成疏松的软材，这些软材在整粒浆的作用下，逐渐形成细小而均匀的湿颗粒，符合(GMP)标准要求。

Working principle

The granulation process of this machine is mixing and granulating by the two processes completed in the same container, powder material in a fixed conical container, due to the stirring action of blend pastes, make the powder lot shake and disperse to present semi-shifting state, and achieve full mix, with the the injection of adhesive, let powder lot become wetting gradually. Material shape change, enhanced the extrusion the blend pastes and cylinder wall act to materials, friction and kneading effect, to form the loose soft material, these soft materials become small, uniform wet granules in the role of granulate pastes, meet(GMP)standards.



技术参数 Technology parameter

型号 Model	规格 Specification	10	50	100	200	300
物料槽 Material groove	总容积 Total Volume (L)	10	50	100	200	300
	工作容量 Working capacity (m ³)	2-7	12-35	25-70	80-100	120-150
	最大内径 Max inside diameter (mm)	294	500	640	788	988
驱动系统 Driving system	搅拌桨转速 Impeller speed (r/min)	100-1000	25-500	8-250	30-250	30-200
	电机功率 Power of motor (kw)	2.2	5.5	7.5	15	22
	切割刀转速 Cutting knife speed	5-3000				
	电机功率 Power of motor (kw)	0.75	1.5	3	4	7.5
重量尺寸 Weight dimensions	长 Length (mm)	1500	2000	2400	2200	2400
	总高 Total height (mm)	1200	1500	1560	2000	2300
	出料口高度 Height of discharge part (mm)	700	700	730	930	930
	宽B Wide B (mm)	600	600	900	1700	1800
	机重 Weight of machine (kg)	260	400	700	1100	1300



用途

带式真空干燥机的适应范围广,对于绝大多数的天然植物的提取物,都可以适用。尤其是对于粘性高、易结团、热塑性、热敏性的物料,不适宜或者无法采用喷雾干燥的物料,用带式真空干燥机干燥是最佳选择。而且,可以直接将浓缩浸膏送入带式真空干燥机进行干燥,无需添加任何辅料,这样可以减少最终产品的用量,提高产品档次。同时,在高真空度状况下干燥,干燥温度较低,有利于保持浸膏的原色原味。

Usage

Vacuum Belt Dryer has wide range of application, it can be applied to the vast majority of natural plant extracts. Especially for high viscosity, easy caking, thermoplastic, thermo-sensitive materials, and for the unsuitable or can not be dried with spray dryer materials, Vacuum Belt Dryer is the best choice. Furthermore, the concentrated extract can be directly fed into the Vacuum Belt Dryer for drying without adding any auxiliaries, which can reduce the dosage of the final product and improve the product grade. At the same time, drying in a high vacuum condition, low drying temperature is helpful to keep the original color of the extract.

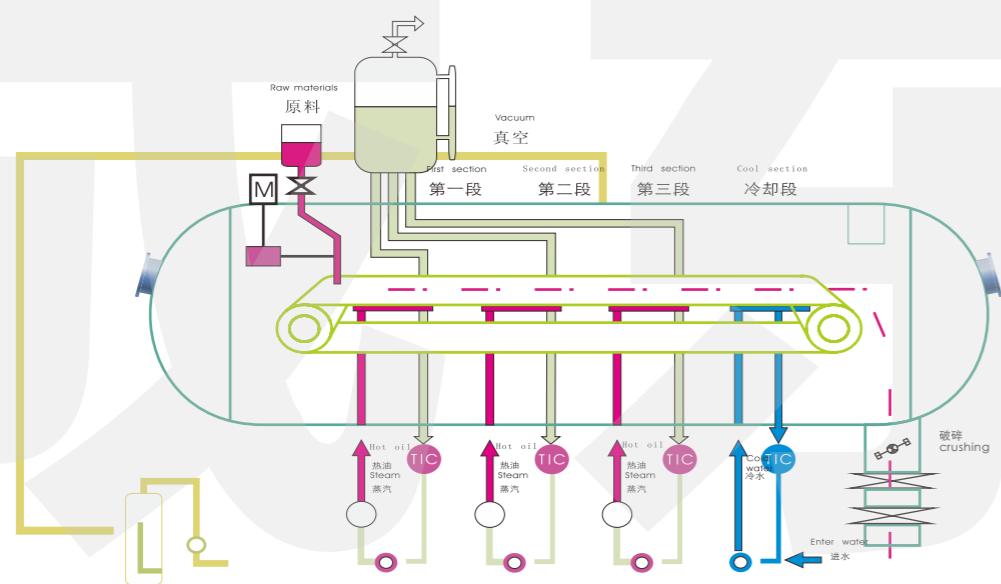
主要特点

- 干燥物料为各种植物经过水提、醇提或其它有机溶剂提取、浓缩后的浓缩液，适应范围广，对于绝大多数的天然产物的提取物都可以适用。
- 采用低温真空干燥，温度控制采用调节阀和数字传感控制技术从而保证每段的加热温度恒温运行，干燥过程中产品温度一般在40~60℃之间，对于天然提取物，可以最大限度的保持其色、香、味，不破坏热敏性成份，得到高质量的最终产品。
- 设备由PLC控制，通过人机界面来操作，自动运行，可以显示趋势曲线、各类工艺参数、报警、生产数据等。干燥机既可以自动控制运行，也可以手动操作。

- 4、实现了连续式工作，连续进料，连续出料。进料装置能够在线调节，以便取得最优的进料参数，即使在进料量很小的情况下，布料装置也能够均匀布料。
- 5、配备自动化CIP清洗系统，设备内部合理设置喷球或喷嘴，通过预置的清洗程序来自动完成CIP清洗过程，清洗过程中升起干燥带以便于充分清洗，符合GMP要求。
- 6、箱体内存各条干燥履带分别由变频电机单独驱动，干燥带运动速度采用变频调速电机控制，具有自动纠偏和张力调整功能。干燥机内每条干燥带配备单独的偏心螺杆泵作为进料输送泵。
- 7、干燥后的产品较为疏松，在真空室内连续粉碎，根据粉末需要目数可以调整20目至80目之间。
- 8、配置罐带有加热夹套和搅拌装置，用于混合、加热粘稠的液体，便于进料。
- 9、整个干燥机采用不锈钢材料制造，干燥箱体内存表面粗糙度Ra<0.8μm，所有密封件按照制药工业要求设计，符合GMP规范。

Main characteristics

1. Drying materials are concentrated liquids from a variety of plants which is extracted by water, alcohol or other organic solvents and then concentrated, a wide range of application, applies to the vast majority of natural product extracts.
2. Adopts low-temperature vacuum drying. Uses the control valve and digital sensing technology for temperature control, to ensure the heating temperature of each section and the constant temperature operation. The drying temperature of the product is in general between 40~60°C, which can maximize preserve the color, fragrance, taste of the natural extracts, and do not destroy the heat sensitive components, to obtain high-quality final products.
3. The equipment is PLC control, operated through Man-machine interface, automatic operation, can display trend curve, all kinds of process parameters, alarm, production data and so on. The dryer can be operated either automatically or manually.
4. Achieves continuous work, continuous feeding, and continuous discharge. The feed device can be adjusted on-line to obtain the optimal feed parameters, even if the feeding quantity is very small, it still can be evenly distributed by the material distributed device.
5. Equipped with automated CIP cleaning system. Cleaning ball or nozzles are reasonable set inside the dryer, CIP cleaning process is completed automatically through the preset cleaning procedures, belt can be lifted to facilitate full cleaning during the washing process, in line with the GMP requirements.
6. Each belt is driven separately by an individual frequency conversion motor, and the speed of the belt is controlled by the variable frequency speed regulating motor, which has automatic rectification and tension adjustment function. Each belt is provided with a separate eccentric screw pump as a feed pump.
7. The dried product is more loose, continuously crushed in the vacuum chamber, the partial size of the final powder can be adjusted between 20~80 mesh.
8. Material Preparation Tank equipped with heating jacket and stirring device, used for mixing, viscous liquid heating, easy to feed.
9. The entire dryer manufactured with stainless steel material, the dryer body inner surface roughness Ra<0.8μm, all seals designed according to the pharmaceutical industry requirements, in line with GMP specifications.



原理简介

带式真空干燥机是连续式真空干燥机运作。由干燥室、加热和制冷系统、纠偏系统、原料供给系统和真空系统等部分组成，用于液料或浆料的干燥。干燥室内设置有传送带，带下设加热和冷却装置，顺序地形成加热区和冷却区，其中加热区又分为4段或5段，第一、二段采用蒸气加热，进行恒速干燥，第三、四段进行减速干燥，第五段进行均质，后三段采用热水加热。根据产品干燥工艺要求，各段的操作温度可以调节。

Working principle

The Vacuum Belt Dryer is the continuous vacuum drying operation. It is composed of drying chamber, heating and refrigeration system, rectifying system, raw material supply system and vacuum system etc., which is used for drying liquid material or slurry. The dryer is provided with a conveyor belt, with heating and cooling device under the belt, and form the heating zone and cooling zone in order, in which the heating zone is divided into 4 or 5 sections, the first to second sections using steam heating, constant temperature drying, the third to fourth section decreasing drying, the fifth section of the homogeneous, the latter three sections using hot water heating. The operating temperature of each section can be adjusted according to the product drying process requirements.

技术参数 Technology parameter

Model 型号	ZDG2-04	ZDG3-06	ZDG3-15	ZDG4-30	ZDG4-50	ZDG5-80	ZDG6-100	ZDG7-120	ZDG8-160	ZDG10-186	ZDG10-200
换热面积(加热+冷却) (m²) Heat exchange area (m²)	4	6	15	30	50	80	100	120	160	186	200
主机内径 (mm) Inner diameter of main machine	1000	1200	1400	1700	1800	2000	2200	2400	2500	2800	3000
主机长度 (mm) The length of main machine	5000	6000	9000	12000	15000	15000	16000	16000	16000	16000	16000
主机高度 (mm) The height of main machine	2200	2400	2700	3000	3200	3400	3700	3800	4000	4300	4600
履带层数 The belt's number of plies	2	3	3	4	4	5	6	7	8	10	10
进料速度 (L/H) Feeds speed	According to the customer requirements 根据客户需求配置										
进料温度(°C) Temperature of Feed	≤60	≤60	≤60	≤60	≤60	≤60	≤60	≤60	≤60	≤60	≤60
进料含水率(%) Feed water content	>30	>30	>30	>30	>30	>30	>30	>30	>30	>30	>30
干燥成品含水率(%) Water content of finished product	≤3	≤3	≤3	≤3	≤3	≤3	≤3	≤3	≤3	≤3	≤3
履带速度 (m/min) Belt speed	According technique to set the speed 根据工艺设定速度										
装机总功率(kw) Total Installed Power	25	30	35	45	55	65	75	85	100	115	135
CIP 在位清洗压力(MPA) CIP cleaning pressure	0.3-1MPa	0.3-1MPa	0.3-1MPa	0.3-1MPa	0.3-1MPa	0.3-1MPa	0.3-1MPa	0.3-1MPa	0.3-1MPa	0.3-1MPa	0.3-1MPa
型号说明: ZDGxxx Z: 真空自动, D: 带式, G: 干燥, a: 层数, xxx: 换热面积(m²). Model explanation: ZDGxxx Z: vacuum, automatic, D: belt type, G: drying, a: number of plies, xxx: heat exchange area (m²).											



上海成东科技带式干燥生产车间
Chengdong production workshop

DG系列高速离心喷雾干燥机 DG SERIES HIGH-SPEED CENTRIFUGAL SPRAY DRYER



用途

空气通过过滤器和加热器，进入干燥塔顶部的空气分配器，然后呈螺旋状均匀地进入干燥室。料液由料液槽经过滤器由泵送至干燥塔顶的离心雾化器，使料液喷成极小的雾状液滴，料液与热空气并流接触，水份迅速蒸发，在极短的时间内干燥为成品。成品由一级旋风分离器、二级旋风分离器通过冷冻除湿系统输入至净化车间集中收料。

Use

Air goes into the air distributor at the top of the drying tower after being filtered and heated, and then spiral evenly enters into the drying chamber. Material liquid is sent to the centrifugal atomizer at the top of the drying tower by pump from the liquid trough after filtration. Then the material liquid are sprayed into a very small mist droplets, and parallel flow contact with the hot air, water inside the material liquid is quickly evaporated, so as the material liquid is dried into finished product in a very short period of time. Finished products passed through the 1st stage cyclone separator, 2nd stage cyclone separator and then refrigeration dehumidifier system before being collected at the clean room.

特点

1. 干燥速度快，料液经离心喷雾后，表面积大大增加，100~150℃温度下1~3秒内就能蒸发95%~98%的水分。
2. 采用并流型喷雾干燥形式能使液滴与热风同方向流动，适宜于热敏性物料干燥。
3. 使用范围广，可以用于热风干燥、离心造粒和冷风造粒，大多特性差异很大的产品都能用此机生产。
4. 成品具有良好的分散性，流动性和溶解性。
5. 生产过程简化，操作控制方便，对于成品的粒径、松密度、水份，均可进行调整，控制。

Feature

1. Fast drying speed. After centrifugal spraying, the surface area of the material liquid is greatly increased, and 95%~98% water can be evaporated in 1~3 seconds at 100~150℃.
2. Adopts parallel flow type spray drying method, the liquid droplets can flow in the same direction with the hot air, which is suitable for the heat sensitive material drying.
3. Wide range application. It can be used for hot air drying, centrifugal granulation and cold wind granulation, most of products which with very different characteristics can be processed with this machine.
4. The finished product has good dispersibility, fluidity and solubility.
5. Simple production process, and convenient operation control, can adjust and control the grain size, loose density and moisture etc. of the finished product.

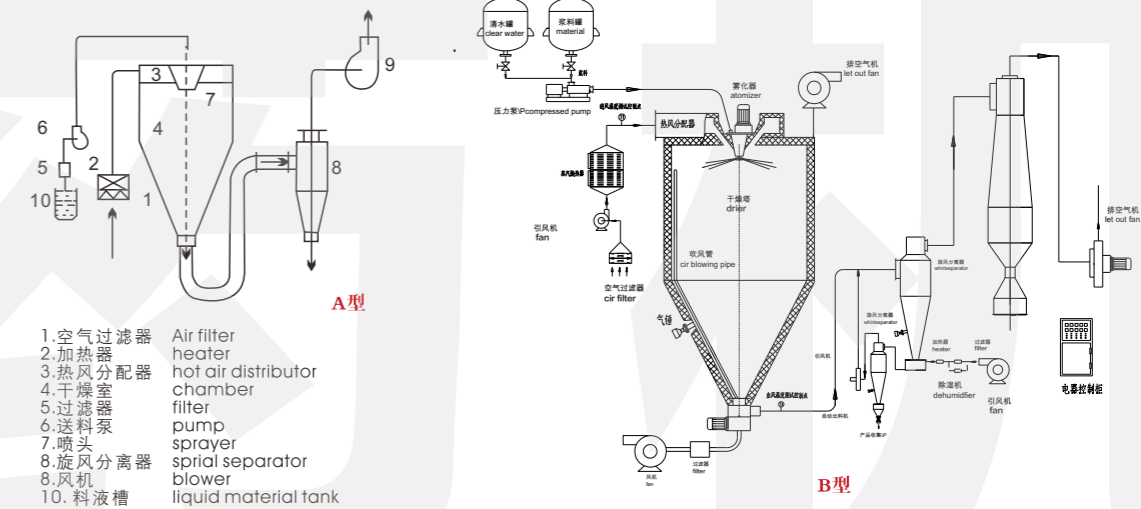
工作原理

空气通过过滤器“1”和加热器“2”进入干燥室顶部的热风分配器“3”，热空气呈螺旋状均匀地进入干燥室“4”。料液经过过滤器“5”，由泵“6”输送至干燥室顶部的离心喷雾头“7”，被喷成极小的雾状液滴，以及大的表面积与热空气接触，水份迅速蒸发，在极短的时间内干燥成颗粒制品，在塔底和旋风分离器“8”中捕集，湿废气由风机“9”排至室外。(见干燥流程图)

Working principle

Air enters into hot air distributor "3" at the top of drying chamber though filter "1" and heater "2", hot air goes into the drying chamber "4" uniformly in spiral state. Liquid material is pumped by pump "6" to the centrifugal sprayed "7" after flowed through filter "5", where it is sprayed into fog drops and further contacted with hot air in large surface, and dried into granulate products in a very short time thanks to speedy evaporation of the humidity, humid waste air is accumulated at the bottom of tower by spiral separator "8" and exhausted to the outside by blower "9". (see dry drawings)

干燥流程图 Drying 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 chamber
- 5. 过滤器 filter
- 6. 送料泵 pump
- 7. 喷头 sprayer
- 8. 旋风分离器 spiral separator
- 8. 风机 blower
- 10. 料液槽 liquid material tank

技术参数 Technology parameter

型号 Type	项目 Item	DG					
		5	25	50	100	150	200-2000
入口温度 Inlet temperature (°C)		≤350					
出口温度 Outlet temperature (°C)		<80 90					
水分最大蒸发量 Max. evaporation (kg/h)		5	25	50	100	150	200-2000
离心喷雾头传动形式 Driving type of centrifugal sprayer		压缩空气传动		机械传动			
转速 Rotation speed (r. p. m)		25000	22000	21500	18000	18000	15000
喷雾盘直径 Dia. of spray pallet (mm)		50	102	108	108	150	180-340
外形尺寸(长x宽x高) Outer size (LxWxH) (m)		1.8x0.93x2.2	3x2.7x4.26	3.7x3.2x5.1	4.6x4.2x6	5.5x4.5x7	根据实际情况确定
干粉回收 Powder recovery (%)		95-99					

技术参数 Technology parameter

型号 Type	项目 Item	DG-10	DG-20	DG-25	DG-50	DG-100	DG-150	DG-200	DG-300
水分蒸发量 Water evaporation (kg/h)		8-12	15-25	20-30	45-55	90-110	140-160	180-220	280-320
进风温度 Inlet temperature (°C)		150-200							
出风温度 The air temperature (°C)		85-100							
干燥塔直径 Drying tower diameter (mm)		1500	2000	2200	2600	3400	4000	4500	5500
干燥塔高度 Drying tower height (mm)		5000	5800	6000	6900	8500	9700	11000	13000
系统耗能 (不包含电加热) System energy (excluding electric heating)		8	14.5	16	25	38	54	90	130
设备占地面积 Equipment area (m²)		20	36	40	50	60	70	80	95

FZG方形真空干燥器 FZG SQUARE VACUUM DESICCATOR

工程项目/药机实验室 ENGINEERING PROJECT/ PHARMACEUTICAL MACHINERY LABORATORY

用途

适用于医药、化工、食品、电子等行业的物料干燥。

Use

For medicine, chemical, food, electronics and other industries drying.



特点

1. 加热温度恒定，提高真空度，能加快干燥速率。
2. 当真空度恒定，提高加热温度，能加快干燥速率。
3. 提高真空度，物料中蒸发溶剂可通过冷凝器加以回收是常用干燥设备。采用水环泵真空机组，能节省能源及投资，符合GMP标准要求。

Feature

1. The heating temperature constant, raising the vacuum, can speed up the drying rate.
2. When the vacuum is constant, raising the heating temperature, can speed up the drying rate.
3. To improve the vacuum, the material in the evaporating solvent may be recycled through the condenser is the commonly used drying equipment. used a water ring vacuum pump unit, saving energy and investment, meet(GMP)standards.

技术参数 Technology parameter

型号 Type		YZG-1000	YZG-1400	FZG-15
干燥箱内尺寸 Inner size (mm)		Φ 1000x1527	Φ 1400x2054	1500x1400x1220
干燥箱外尺寸 Outerr size (mm)		1693x1190x1500	2386x2675x1920	1513x1924x2060
烘架层数 Stove frame layers		6	8	8
层间距离 Distance between layer (mm)		102	102	122
烘盘尺寸 Drying tray size (mm)		250x410x45	400x600x45	480x630x45
烘盘数 The number of drying tray		24	32	32
烘架管内使用压力 Inner pressure of frame (Mpa)			≤0.784	
烘架使用温度 Temperature (°C)			65-130	
箱内空载真空度 Vacuum degree (Mpa)			0.08-0.095Mpa	



南非植物提取、降膜浓缩项目
Herb Extraction and Fall Film Concentration at South Africa



双效浓缩机组
Denmark Resin Absorbing Unit



丹麦大孔树脂吸附机组 Denmark Resin Absorbing Unit



丹麦大孔树脂吸附机组 Denmark Resin Absorbing Unit

严格的成品品质保障，引进国际先进生产工艺，精确控制流水作业，产品经常规检测和模拟使用检测，主要零件还经过质量全面检测，不放过任何产品瑕疵，确保用户利益，并获得ISO9001-2000质量体系认证，品质卓越安然无忧，符合（GMP）标准要求。

With the strict quality guarantee of finished products, internationally advanced production technology introduced and accurately supervised and controlled flow operation, the products have passed regular inspection and simulated use inspection. The main parts have been carried out complete quality inspection without missing any product defect, so as to ensure customer's benefit. Passing the ISO9001-2000 quality system qualification, the product is safe with prominent quality, meet(GMP) standards.



马来西亚带式干燥机组 Vacuum Belt Dryer at Malaysia



高效智能包衣机组 High efficiency intelligent coating machine



提取、浓缩、树脂吸附柱实验室 Herb Extraction, Concentration, Resin Absorbing Column Lab



包衣、混合实验室 Coating and Mixing Lab



沸腾制粒干燥实验室 Granulator Dryer Lab



超临界CO₂ 萃取实验室 Supercritical CO₂ Extraction Lab



公司建立超临界CO₂ 萃取、真空带式干燥、提取浓缩、干燥制粒、包衣混合等现代化的实验室，可为用户提供工艺小试、中试服务

We set up modern labs of Supercritical CO₂ Extraction, Vacuum Belt Drying, Herb Extraction and Concentration, Dry Granulating, Coating and Mixing etc. available for small and pilot scale process technology trail run service for customers

