



中药提取整体解决方案

TURNKEY SOLUTION FOR TCM EXTRACTION

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上海远跃制药机械有限公司

Shanghai Uniwin Pharmaceutical Machinery Co., Ltd

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公司简介 About Us



上海远跃制药机械有限公司坐落于上海市青浦区，成立于2002年，注册资金6000万元，占地90亩，旗下设有苏州浙远自动化工程有限公司。隶属于山东新华医疗器械股份有限公司(股票代码:600587)。

公司自成立以来，在中药提取行业潜心研究，精心运营，现可为用户提供提取、浓缩、纯化、蒸馏、干燥和工程建设等中药制剂整体解决方案。公司坚持技术先行、质量至上的产品理念，在产品的制造工艺，焊接质量，耐腐蚀性和防锈能力方面达到无菌水平，在同类行业中处于领先地位，获得了广大客户的一致认可与肯定。

公司可为客户提供技术咨询，工艺优化，工程设计，装备制造，工程安装等全方位的技术服务，真诚欢迎新老客户莅临公司指导工作，我们愿与您一起，共同推动中药制剂生产的现代化健康发展。

Shanghai Uniwin Pharmaceutical Machinery Co., Ltd was founded in 2002 with a registered capital of 60 million RMB. It is in Qingpu District, Shanghai city, covering an area of 90 mu. As a subcompany of Shinva Medical Instrument Co., Ltd. (600587.SS), it has Suzhou Zheyuan Automation Engineering Technology Co., Ltd.

Since its establishment, the company have been researching and operating carefully in the traditional Chinese medicine extraction industry. Now we can provide users with overall solutions covering extraction, concentration, purification, distillation, drying and engineering construction of traditional Chinese medicine preparations. The company insists on the product concept of technology first and quality first, and reaches the sterile level in the manufacturing process, welding quality, corrosion resistance and rust prevention ability of the products. We are is in the leading position in the similar industry and have been unanimously endorsed by the majority of consumers.

The company can provide consumers with all-round technical services such as technical consultation, process optimization, engineering design, equipment manufacturing, engineering installation, etc. We sincerely welcome new and old consumers' arrival, and guidance. We are willing to work with you to jointly promote the modern and healthy development of the production of traditional Chinese medicine preparations.

发展历程 Development History

- 2002年，公司在上海市青浦区注册成立。
In 2002, the company was registered and established in Qingpu District, Shanghai city.
- 2006年，首次获得“上海市高新技术企业”荣誉称号，获得压力容器设计、制造许可证和GC2级压力管道安装施工资质并延续至今。
In 2006, the company won the honorary title of Shanghai High-Tech Enterprise for the first time, and obtained pressure vessel design and manufacturing license and GC2 pressure pipeline installation and construction qualification and kept the title till now.
- 2010年，荣获“上海市名牌产品”荣誉称号。
In 2010, the company won the honorary title of Shanghai Famous Brand Product.
- 2011年，公司与浙江大学联合成立苏州浙远自动化工程有限公司，致力于推动中药制剂自动化生产。荣获“十佳制药装备民族品牌奖”。
In 2011, the company and Zhejiang University jointly established Suzhou Zheyuan Automation Engineering Technology Co., Ltd., which is dedicated to promoting the automatic production of traditional Chinese medicine preparations. The company won the Top Ten National Brand Award of Pharmaceutical Equipment.
- 2013年，公司与山东新华医疗器械股份有限公司完成战略并购，成为其子公司。通过美国ASME认证。
In 2013, the company completed strategic merger and acquisition with Shinva Medical Instrument Co., Ltd. and became its subsidiary and passing ASME certification.
- 2013年，公司首次获得“上海市青浦区企业技术中心”荣誉称号并延续至今。
In 2013, the company obtained the honorary title: Shanghai Province Qingpu District Enterprise Technology Center and kept the title till now.
- 2015年，荣获“上海市科技小巨人”荣誉称号。
In 2015, the company won the honorary title of Shanghai Science and Technology Little Giant.
- 2017年，荣获上海市“专精特新”中小企业荣誉称号。
In 2017, the company won the honorary title of "Specialized, Sophisticated, Special and New Enterprise " in Shanghai.
- 2018年，公司全面融入新华医疗管理体系，推行标准化管理。
In 2018, the company fully integrated into the Shinva management system and implemented standardized management.

荣誉资质

Honors and Qualifications



服务内容

Services



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Product Catalogue

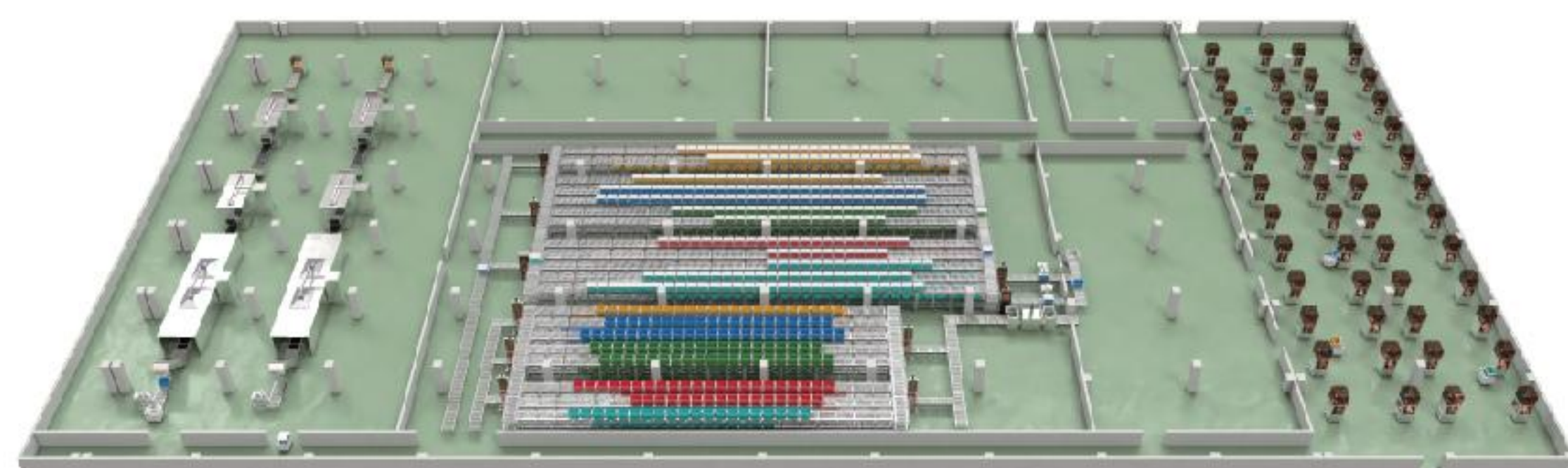
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1 中提工艺设备系统

Chinese Herbal Medicine Extraction Equipment System

1-数字化自动无尘投料

Digitized Automatic Dust-free Material Feeding



适用范围Scope of application:

主要用于中药饮片的自动化无尘投料，该系统是一个完整的数字化生产综合体，运行在“智能”“无尘”条件下，实现接收生产指令后的自动运行。

It is mainly used for the automatic dust-free material feeding of Chinese medicine Yinpian. The system is a complete digitized production synthesis, which can receive production order and start operation automatically under intelligent and dust-free condition.

设备组成Equipment composition:

AGV投料车、智能仓储系统、投料提取系统、滚筒输送线、提升机、机器人系统、扫码系统、清洗系统和控制系统。

AGV material feeding car, intelligent storage system, material extraction system, roller conveying line, robot system, code-scanning system, cleaning system and control system.

产品优势Product advantages:

- 系统采用工业网络，将各单机设备互联互通，实现数字化的云端集成调度系统。
The system adopts industrial network, which can connect all the single equipment and realize digitized cloud integrated dispatch system.
- 总集成低关联设计，单机相互独立，能够独立运行。
It adopts total integration and low correlation design, the single equipment is independent and can run separately.
- 采用射频扫码、赋值技术，实现中药材投料信息全流程追溯。
It adopts RF code-scanning and assignment technology to realize full process traceability of material feeding information.

- 整个系统由调度系统统一下发生产任务，无需人员干预；
The whole system assigns production mission only by the dispatch system, which requires no manual labor.
- 接料口、投料口、清洗设备等易产生扬尘的重点区域封闭式设计，扬尘集中处理排放，避免能源过度浪费；
It adopts closed design for easily dusted areas like material receiving and feeding mouth and cleaning equipment. The dust will be disposed and emitted together to avoid over-waste of energy.
- 可根据生产规模和工艺配方同时设置多个独立生产单元，实现准确、高效、稳定、安全的生产过程；
Multiple independent production unit can be deployed according to the production scale and process recipe to guarantee accuracy, efficiency, stability and safety.

2-提取系列 Extraction Equipment

多功能提取罐 Multifunctional Extraction Tank

适用范围Scope of application:

主要用于制药、食品、化工等行业中物料的水提取和有机溶媒的提取，可实现常压、加压浸提、温浸、渗漉、热回流等多种工艺操作。

It is mainly used for the extraction of materials by using water and organic solvents in the pharmaceutical, food and chemical industries, and can realize a variety of process operations such as atmospheric pressure and pressurized extraction, warm soaking, percolation and heat reflux.

设备组成Equipment composition:

提取罐、捕沫器、冷凝器、冷却器、油水分离器、双联过滤器、泵、投料系统和控制系统。

Extraction tank, mist eliminator, condenser, cooler, oil-water separator, duplex filter, pump, feeding system and control system.

结构形式Structure:

直筒式、篮式、正锥式、倒锥式和蘑菇式。

Straight cylindrical type, basket type, positive cone type, inverted cone type and mushroom type.

产品优势Product advantages:

- 出渣门结构采用第四代齿啮型安全自锁旋转门，满足带压提取安全要求；
The structure of the slag-discharging door adopts tooth-locked self-locking revolving door of the fourth generation to meet the safety requirements of pressurized extraction;



- 出渣门密封圈采用自压式线性密封，罐内压力越高，密封圈越可靠，使用寿命越长；
The slag-discharging door gasket adopts the self-pressurized linear gasket. The higher the pressure in the tank, the more reliable the gasket is and the longer the service life is;
- 罐内壁镜面抛光，焊缝圆角过渡，不挂料，易清洗；
Mirror polishing of the inner wall of the tank, rounded transition of the weld seam, no hanging material, easy to clean;
- 油水分离器（专利产品）油水分离效果好，便于收油，可实现自动收集各类芳香油；
Oil-water separator (patented product) has good oil-water separation effect. It is convenient for oil collection, and can automatically collect various essential oils;
- 出液管用硬管取代传统的软管连接，不泄漏，使用寿命长，安全可靠；
The liquid outlet pipe is a hard pipe instead of the traditional hose, which features no leakage, long service life, safety and reliability;
- 底盖带有底加热装置，可以控制罐内各区温度在1°C左右；
The bottom cover is provided with a bottom heating device, which can control the temperature of each area in the tank at about 1°C;
- 篮式提取罐，将多种药材置入多个吊篮，从罐顶部出渣，解决了传统提取药材堆积层厚，循环少，致使煎煮时间长、得率低的问题。其特殊结构以及独特的物料循环方式，更利于挥发油提取，有效的缩短了提取时间，提高了药液的澄清度、有效成分得率。
Basket type extraction tank: A variety of medicinal materials are put into a plurality of hanging baskets and slag is discharged from the top of the tank, which solves the problems of long decoction time and low yield caused by thick accumulation layer and less circulation of traditional extracted medicinal materials. Its special structure and unique material circulation mode are more conducive to the extraction of essential oil, effectively shortens the extraction time, and improves the clarity of liquid medicine and the yield of effective components.

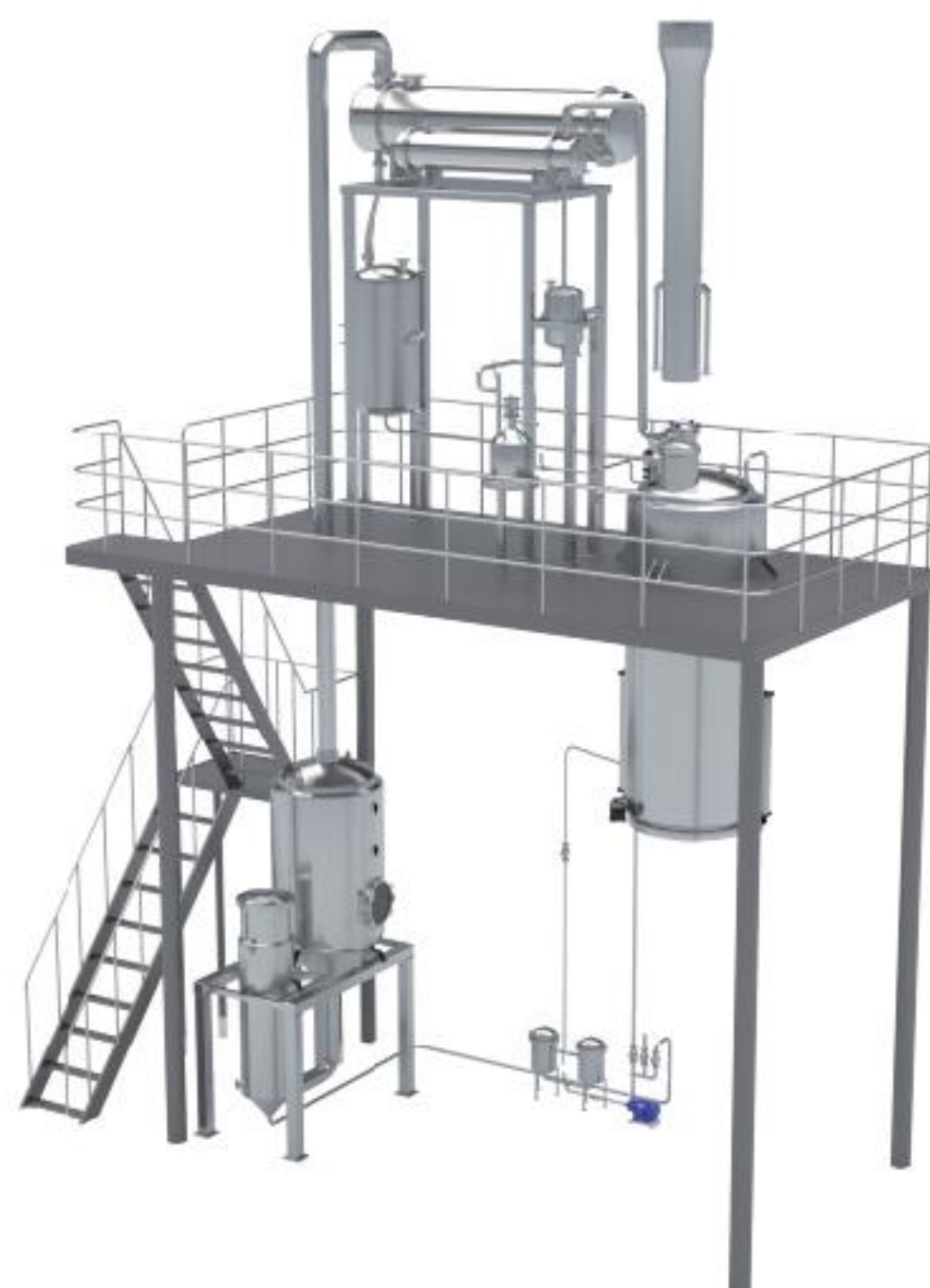
索氏/热回流提取浓缩机组 Soxhlet/Heat Reflux Extraction and Concentration Unit

适用范围Scope of application:

主要用于水、乙醇及其他有机溶剂提取药材中的有效成分、浸提液浓缩以及有机溶剂的回收。

It is mainly used for extracting effective components from medicinal materials by using water, ethanol and other organic solvents, concentrating the extract and recovering organic solvents.

产品优势Product advantages:



- 新型动态提取浓缩机组，集提取浓缩为一体；
New dynamic extraction and concentration unit, integrating extraction and concentration functions;
- 收膏率可提高10%~20%，有效成分含量高；
The extraction yield can be increased by 10%~20%, and the content of active ingredients is high;
- 浸出与浓缩同时进行，缩短生产时间50%左右，设备利用率高；
Extraction and concentration are carried out simultaneously and the production time is shortened by about 50%, and the equipment utilization rate is high;
- 溶剂用量少，热源重复利用，节约成本。
Less solvent usage, reuse of heat source, cost saving.

渗漉罐 Percolation tank

适用范围Scope of application:

制药、生物、食品等行业，常用于贵重药材、毒性药材及高浓度制剂；也可用于有效成分含量较低的药材的提取。

It is suitable for pharmaceutical, biological, food and other industries, and is often used for extracting precious medicinal materials, toxic medicinal materials and high-concentration preparations. It can also be used for extracting medicinal materials with low content of active ingredients.

结构形式Structure:

正锥式和直筒式。

Straight cylindrical type and positive cone type.

产品优势Product advantages:

- 属于动态浸出方法，溶剂利用率高，有效成分浸出完全，可直接收集浸出液；
Dynamic extraction, high solvent utilization rate, complete extraction of active ingredients, direct collection of extract;
- 整套设备均采用不锈钢制造，内外表面精抛光处理，光滑、整洁，无死角，易清洗，符合药品生产过程中的GMP要求。
The whole set of equipment is made of stainless steel, and the inner and outer surfaces are polished, smooth, clean, free of dead leg and easy to clean. GMP requirements in the pharmaceutical production process are met.



3-浓缩系列 Concentration Equipment

应用范围 Scope of application:

浓缩设备广泛应用于化工、食品、制药等行业，适用于液体物料的浓缩、溶剂回收等。

It is widely used in chemical industry, food industry, pharmaceutical industry and other industries, and is suitable for liquid material concentration, solvent recovery and so on.

设备组成 Equipment composition:

浓缩设备一般由加热器、蒸发器、分离器、冷凝器及受液罐等组成。

It generally consists of heater, evaporator, separator, condenser and liquid receiving tank, etc.

产品优势 Product advantages:

- 加热管采用镜面管，长径比合适，不易结垢、粘壁、结焦及堵塞；
Heating pipe adopts mirror pipe, and has proper long diameter and is not easy to scale, stick to wall, coke and block;
- 加热器与蒸发室相对高度设计合理，循环流畅，提高传热系数；
Reasonable design of relative height between heater and evaporation chamber, smooth circulation and high heat transfer coefficient;
- 冷凝器采用 $\phi 19\text{mm}$ 换热管，换热效率高，不易结垢；
The condenser adopts $\phi 19\text{mm}$ heat exchange pipe, which has high heat exchange efficiency and is not easy to scale;
- 采用列管+缠绕管组合冷凝的方式，将有机溶媒冷却至更低温度，能有效防止溶剂二次汽化，溶媒回收率可达95%以上；
The organic solvent is cooled to a lower temperature by means of combined condensation of tubes and coils, which can effectively prevent the secondary vaporization of the solvent, and the recovery rate of the solvent can reach over 95%;
- 浓缩器各效加热面积经过热量核算后，能充分利用前一效二次蒸汽的热能，提高热能利用率，降低能耗；
After heat balance calculation of each effect heating area of concentrator, the heat energy of the secondary steam of the previous effect can be fully utilized. The heat energy utilization rate is improved, and the energy consumption is reduced;
- 具有浓缩时间短，蒸发速度快的特点，能较好地保持热敏性物料不被破坏。
It has the characteristics of short concentration time and fast evaporation speed, and can keep heat sensitive materials from being destroyed.

单效浓缩器 Single-effect concentrator

工作原理 Working principle:

料液中的部分溶剂在真空作用下汽化并不断排除，往复多次，料液里的溶剂不断被蒸发掉，浓度得以提高，直到浓缩到所需的比重后由出液(膏)口出液(膏)。

Part of the solvent in the material liquid is vaporized and continuously discharged under the action of vacuum, and after several repetitions, the solvent in the liquid is continuously evaporated and the concentration is increased until it is concentrated to the required specific proportion and then discharged from the liquid (paste) outlet.

产品优势 Product advantages:

- WYZ普通型，用于水溶液的蒸发；
WYZ general type equipment is used for evaporation of aqueous solution;
- WZYH酒精回收型，用于酒精溶液的蒸发，较大的冷凝冷却面积，确保酒精回收，回收浓度达到70%-85%，酒精损耗率 $<5\%$ ，酒精回收后温度小于 40°C ；
WZYH alcohol recovery type equipment is used for evaporation of alcohol solution. It has a large condensing and cooling area, ensuring alcohol recovery. The recovery concentration reaches 70%-85%, the alcohol loss rate is less than 5%. The temperature after alcohol recovery is less than 40°C ;
- WZYS收膏型，用于单效蒸发和收浓膏，在单效正常蒸发后，关闭加热室与蒸发室连接喷管和循环管的阀门，将料液全部进入蒸发室，通过蒸发室的夹套直接加热，进行减压浓缩，提高物料的浓缩比重至1.35-1.45。
WZYS paste collecting type equipment is used for single-effect evaporation and concentrated paste collection. After single-effect normal evaporation, valves of the nozzle and circulating pipe connecting the heating chamber and the evaporation chamber are closed. All material liquid comes into the evaporation chamber, and is heated directly the jacket of the evaporation chamber, and is concentrated under reduced pressure until the concentration proportion of the material is increased to 1.35-1.45.



节能/热泵双效浓缩器 Energy-Saving/Heat Pump Double-Effect Concentrator

工作原理 Working principle:

节能双效浓缩器：一效二次蒸汽作为二效的热源给物料加热，再次利用热能，提高利用率，能有效节能。

Energy-saving double-effect concentrator: the secondary steam of the first-effect is used as the heat source of the second-effect to heat the materials, which improves the utilization rate of heat energy.

热泵双效浓缩器：通过热泵将一效二次蒸汽压缩后再提供给二效加热，从而大量节约锅炉蒸汽的使用量，降低生产成本。

Heat pump double-effect concentrator: the secondary steam of the first-effect is compressed by the heat pump and then supplied for the second-effect heating, thus greatly saving the consumption of boiler steam and reducing the production cost.

设备组成Equipment composition:

热泵系统（或使用真空）、一效加热室、一效蒸发室、二效加热室、二效蒸发室、冷凝器、收液罐、系统管阀件。

Heat pump system (or vacuum), first-effect heating chamber, first-effect evaporation chamber, second-effect heating chamber, second-effect evaporation chamber, condenser, liquid receiving tank system pipes and valves.



热泵双效操作指标Double-effect operation index of heat pump:

生蒸汽压力0.5~0.7MPa, 一效加热温度 90°C, 一效蒸发温度75°C) ; 二效加热温度 75°C, 二效蒸发温度55°C。

The live steam pressure is 0.5 ~ 0.7 MPa. The first-effect heating temperature is 90°C, and the first-effect evaporation temperature is 75 C); The second-effect heating temperature is 75°C, and the second-effect evaporation temperature is 55°C.

节能指标Energy Saving Index:

汽水比为0.33-0.37Kg汽/Kg水, 比不带热泵双效系统节能约34%, 节水30%。

The ratio of steam to water is 0.33-0.37Kg steam /Kg water. Compared with the double-effect system without heat pump, about 34% energy and 30% water are saved.

三效浓缩器 Three-Effect Concentrator



适用范围Scope of application:

用于中药、西药、食品、化工等液体料的浓缩, 尤其适用于热敏性物料的低温真空浓缩。另有三效逆流浓缩结晶器, 可以连续进料, 逆流浓缩, 在一效结晶出膏, 尤其适用于原料药或相关辅料的蒸发浓缩结晶。

It is used for the concentration of liquid materials of traditional Chinese medicine, western medicine, food and chemical industry, and is especially suitable for the low-temperature vacuum concentration of heat-sensitive materials. There is another three-effect reverse-flow concentrator and crystallizer, which can continuously feed and concentrate reverse-flow materials. Materials are crystallized in the first effect. It is especially suitable for evaporation and crystallization of raw materials or related excipients.

产品优势Product advantages:

- 可回收酒精浓度80%左右;
The recovered alcohol concentration is about 80%;
- 可间歇或连续进料浓缩, 一次成膏。
Intermittent or continuous materials feeding for concentration to paste at one time.
- 推出全自动排水结构, 解决冷凝液排放时操作频繁难题, 实践证明使用效果显著。
Fully automatic drain structure is provided to solve the problem of frequent operation when condensate is discharged. Practice has proved that the use effect is remarkable.

球型浓缩器 Spherical Concentrator

适用范围Scope of application:

适用于中药、西药、食品、生物制药、化工等液料的真空浓缩、结晶、蒸馏、酒精回收等功能。

It is suitable for vacuum concentration, crystallization, distillation, alcohol recovery of liquid materials of traditional Chinese medicine, western medicine, food, biological pharmacy and chemical industry.

设备组成Equipment composition:

本设备主要由球形浓缩罐、汽液分离器、冷却器、受水器等四个主要部份组成。

The equipment is mainly composed of four main parts, i.e. spherical concentration tank, vapor-liquid separator, cooler and water receiver.

产品优势Product advantages:

- 浓缩比重1.35-1.45;
Concentration proportion 1.35-1.45;
- 由于采用减压浓缩, 故而浓缩时间短;
Decompression concentration, short concentration time;
- 对热敏性材料不会破坏其有效成分。
The active ingredients of heat-sensitive materials will not be destroyed.



刮板浓缩器 Scraper Concentrator



适用范围Scope of application:

适用于制药、食品、保健品、化工、轻工等行业液体物料的浓缩蒸馏，并可用于回收酒精及其他溶剂。

It is suitable for concentrating and distilling liquid materials in pharmaceutical, food, health care products, chemical industry, light industry and other industries, and can be used for recovering alcohol and other solvents.

设备组成Equipment composition:

浓缩器罐体、冷凝器、冷却器、受液槽四个部分组成。

Concentrator tank, condenser, cooler and liquid receiving tank.

产品优势Product advantages:

- 刮板桨叶与罐筒配合可选球形或锥形，采用夹套加热，搅拌蒸发，浓缩效果明显；
The blade is matched with the tank, which can be spherical or conical. The concentrator is heated by jacket. Materials are stirred and evaporated. The concentration effect is good;
- 适用于高粘度状态物料的传热、蒸发、浓缩，浓缩比重1.4以上。
It is suitable for heat transfer, evaporation and concentration of high viscosity materials, and the concentration proportion is above 1.4.

MVR蒸发器 MVR Evaporator

适用范围Scope of application:

- 制药工业（中药提取液浓缩）；
Pharmaceutical industry (concentration of traditional Chinese medicine extract);
- 饮料工业（牛奶、果汁、乳清等蒸发浓缩）；
Beverage industry (evaporation and concentration of milk, juice, whey, etc.);
- 食品、添加剂工业（味精、大豆、蛋白质乳液的蒸发）；
Food, additive industry (monosodium glutamate, soy, protein emulsion evaporation);
- 化工行业（原料液蒸发、洁净、提纯、浓缩）；
Chemical industry (raw material liquid evaporation, cleaning, purification, concentration);



废水处理（含盐废水、含重金属废水处理等）。

Wastewater treatment (salt wastewater, heavy metal wastewater treatment, etc.).

设备组成Equipment composition:

预热器、加热器、分离器、MVR主机、真空系统、管道系统、清洗系统、控制系统。

Preheater, heater, separator, MVR unit, vacuum system, piping system, cleaning system and control system.

产品优势Product advantages:

- 热效率高、节省能源、单位功耗低。蒸发一吨水的能耗只相当于传统蒸发器的10%~15%，节能效果十分显著；
High heat efficiency, energy save and low unit power consumption. The energy consumption of evaporating one ton of water is only 10%-15% of that of the traditional evaporator, and the energy-saving effect is very remarkable;
- 清洁能源电能，不产生任何污染；
Clean energy, without any pollution;
- 蒸汽冷凝水的COD和BOD值以及氨氮含量远低于传统蒸发器的指标，符合标准；
COD and BOD values and ammonia nitrogen content of steam condensed water are far lower than those of traditional evaporators, which meet the standards;
- 适合热敏性物料，采用低温负压蒸发（50-80℃），防止物料的高温变性；
Suitable for heat-sensitive materials. Low-temperature (50-80℃) negative pressure evaporation is used to prevent denaturation of materials caused by high temperature;
- 采用强制布液技术，换热管液流螺旋成膜，换热效率高；
The forced liquid distribution technology is adopted, and the liquid flow of the heat exchange tube is spirally formed into a film, so that the heat exchange efficiency is high;
- 多效浓缩，浓缩梯度依次提高，提高浓缩浓度；
Multi-effect concentration, the concentration gradient is increased in turn, and the concentration is increased;
- 自动化程度高，采用PLC控制系统以及变频技术；
High degree of automation, PLC control system and frequency conversion technology;
- 相对体积小，结构紧凑，占地面积小，便于安装、调试。
Relatively small size, compact structure, small floor space, easy to install and commissioning.

闭环式热泵蒸发器 Closed-Loop Heat Pump Evaporator

适用范围Scope of application:

闭环式热泵蒸发器涉及蒸发浓缩系统技术领域，除了适用于MVR适用的各领域外，还特别适合于含有诸如乙醇、甲醇等易燃易爆溶剂的蒸发浓缩。

It relates to the technical field of evaporation and concentration systems. It is not only suitable for various fields where MVR is applicable, but also particularly suitable for evaporation and concentration flammable and explosive solvents containing ethanol, methanol, etc.

设备组成Equipment composition:

预热器、加热器、蒸发室、气液分离器、输送泵、热泵机组、二次蒸汽冷凝器、溶剂冷却器、冷凝液储罐、真空泵、清洗系统及连接管 阀件、控制系统。

Preheater, heater, evaporation chamber, gas-liquid separator, delivery pump, heat pump unit, secondary steam condenser, solvent cooler, condensate storage tank, vacuum pump, cleaning system, connecting pipe, valves and control system.

**产品优势Product advantages:**

- 节约能源，热效率高，运行成本仅为普通单效的20%；
Energy saving, high heat efficiency, only 20% of operating of ordinary single effect evaporator;
- 能源清洁便利，COD和BOD排放符合国家最新环保要求；
Energy is clean and convenient, and emissions of COD and BOD meet the latest national environmental protection requirements;

- 适用广泛，负压低温蒸发，蒸发温和，亦适合热敏性物料；
Wide application, negative pressure low-temperature evaporation, suitable for heat sensitive materials;
- 操作简单，运行平稳，可实现无人值守的全自动化控制；
Easy operation, stable running, fully automatic control (no person required);
- 尤其适用于易燃易爆溶剂蒸发浓缩；
Especially suitable for evaporation and concentration of flammable and explosive solvent;
- 独家专利技术，具有广泛客户和多年成熟运行经验。
Exclusive patented technology, extensive customers and years of mature operation experience.

4-醇沉/树脂系列 Alcohol Precipitation/Resin

醇沉罐 Alcohol precipitation tank

适用范围Scope of application:

醇沉罐可用于中药、口服液、食品、保健品等行业，主要用于中药材提取后的浓缩液进行固体或液体分层沉淀的操作。

It can be used in industries such as traditional Chinese medicine, oral liquid, food, health care products, etc., and is mainly used for solid or liquid layered precipitation of concentrated solution after extraction of traditional Chinese medicine.

产品优势Product advantages:

- 新型侧出液装置（专利产品）确保上清液抽净，而不使沉淀物被抽出；
The new side-discharge device (patented product) ensures that the supernatant is pumped clean, but the sediment is not pumped out;
- 内装自动浮球出液装置，可减轻工人劳动强度，自动完成出液过程；
Built-in automatic floating ball liquid discharging device can reduce the labor intensity of workers and automatically complete the liquid discharging process;



树脂吸附柱 Resin adsorption column

适用范围Scope of application:

固定床树脂柱联合机组，可用于高等院校、科研机构、药厂、医院等作为技术参数 的确定、中间试验、药液纯化精制之用。

Fixed resin column can be used in colleges and universities, R&D institutions, pharmaceutical factories, hospitals, etc., for the determination of technical parameters, intermediate test, and purification and refining of liquid medicine.

产品优势Product advantages:

- 实现了自动控制；
Automatic control;
- 设计了新型柱体结构和物料布料装置，避免了壁流现象物料可定时正向、逆向流动吸附，解决了树脂装填不均匀及气泡造成的沟流和干锥现象；
The new column structure and material distribution device avoid the wall flow phenomenon, and the materials can flow and adsorb in the forward and reverse directions at regular intervals, and the channeling and dry cone phenomena caused by uneven resin loading and bubbles are solved;
- 树脂顶部、底部吸附层移动较均匀，柱内树脂基本能达到吸附平衡，提高了树脂的利用率；
The adsorption layers at the top and bottom of the resin move evenly, and the resin in the column can basically reach adsorption balance, thus improving the utilization rate of the resin;
- 可实现树脂柱单柱连续吸附操作和多柱连续吸附操作。可作为固定使用，也可作为模拟移动床使用。
Single column continuous adsorption operation and multi-column continuous adsorption operation can be realized. Resin adsorption column can be used as a fixed bed or as a simulated moving bed.

5-连续精馏塔系列 Continuous Distillation Column

连续精馏塔 Continuous Distillation Column

适用范围 Scope of application:

主要用于制药厂不同种类的溶剂回收和提纯，特别适用于生产过程中不同浓度乙醇的回收提纯，适用于水分较高但杂质少的乙醇回收。

It is mainly used for the recovery and purification of different solvents in pharmaceutical factories, especially for the recovery and purification of ethanol with different concentrations in the production process, and for the recovery of ethanol with high moisture but few impurities.



产品优势 Product advantages:

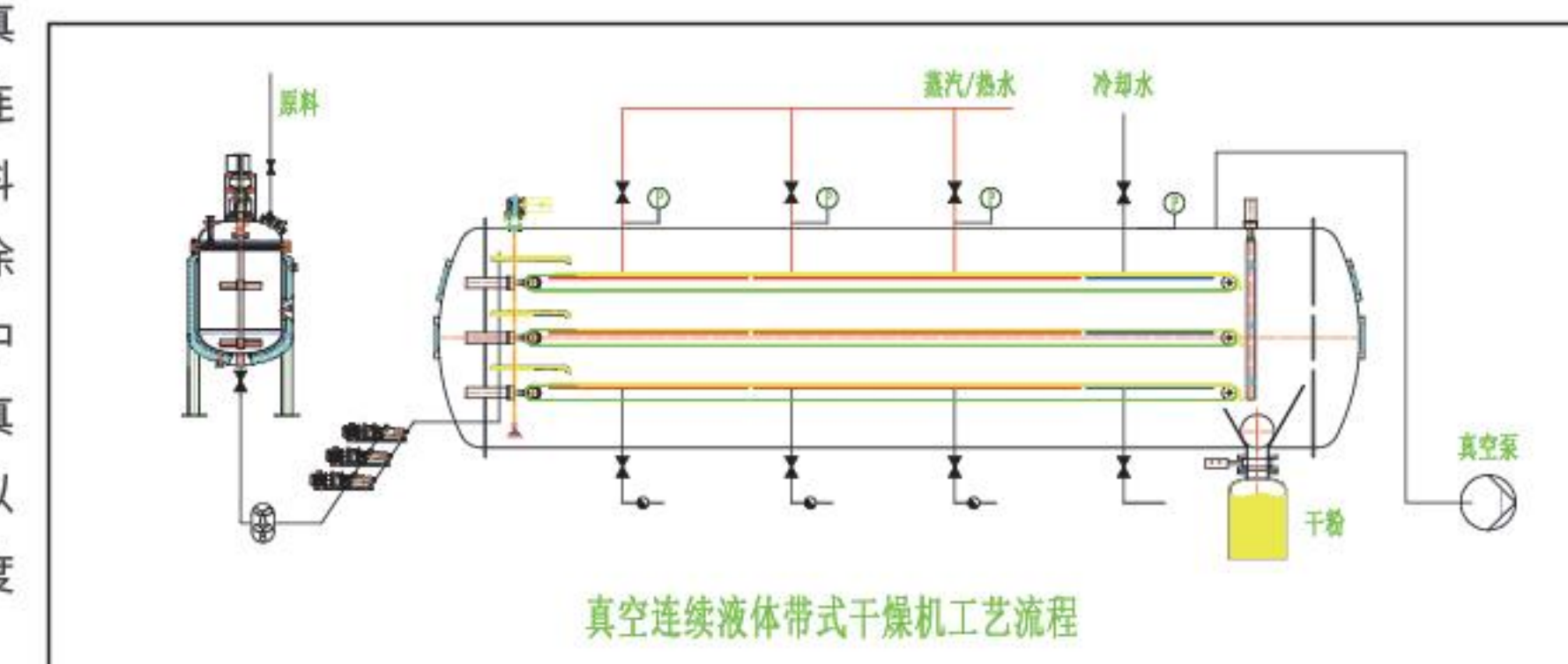
- 可实现24h连续工作，回收乙醇浓度95% (V/V,下同)，残液排放浓度<0.5%；
24h continuous running, 95% concentration of recovered ethanol (V/V, the same below). The discharge concentration of residual liquid is less than 0.5%;
- 塔节高度设计合理，回收浓度高，采出率高，乙醇回收率达98%；
Reasonable design of tower section height, high recovery concentration, high extraction rate, ethanol recovery rate of 98%;
- 设置预热装置，在加热稀酒精的同时又冷凝了酒精蒸汽，既节约饱和水蒸汽，又减少了冷却水量，是一个行之有效的节能措施；
The preheating device is provided to heat the dilute alcohol and condense the alcohol vapor at the same time, which saving the saturated steam and the cooling water;
- 可根据用户厂房、空间等限制定制方案，实现手动和全自动控制。
The solution can be customized according to the user's plant, space and other restrictions. Manual and fully automatic control can be realized.

6-真空履带连续干燥机 Vacuum continuous belt dryer

液体带干 Liquid drier

工作原理 Working principle:

真空连续液体带式干燥机是在真空低温环境下液态物料连续进料、连续出料的自动化干燥设备。液态物料通过进料泵输送到干燥机内，均匀涂布到低速运转的输送带上，高真空中蒸发组分在低沸点温度下蒸发，由真空系统排出。加热板内加热介质可以是蒸汽或过热水。加热板分区，温度由高到低均可调，物料通过加热区，蒸发组分蒸发，干燥后冷却出料。出料端配置真空粉碎装置，输出要求的粒径成品。



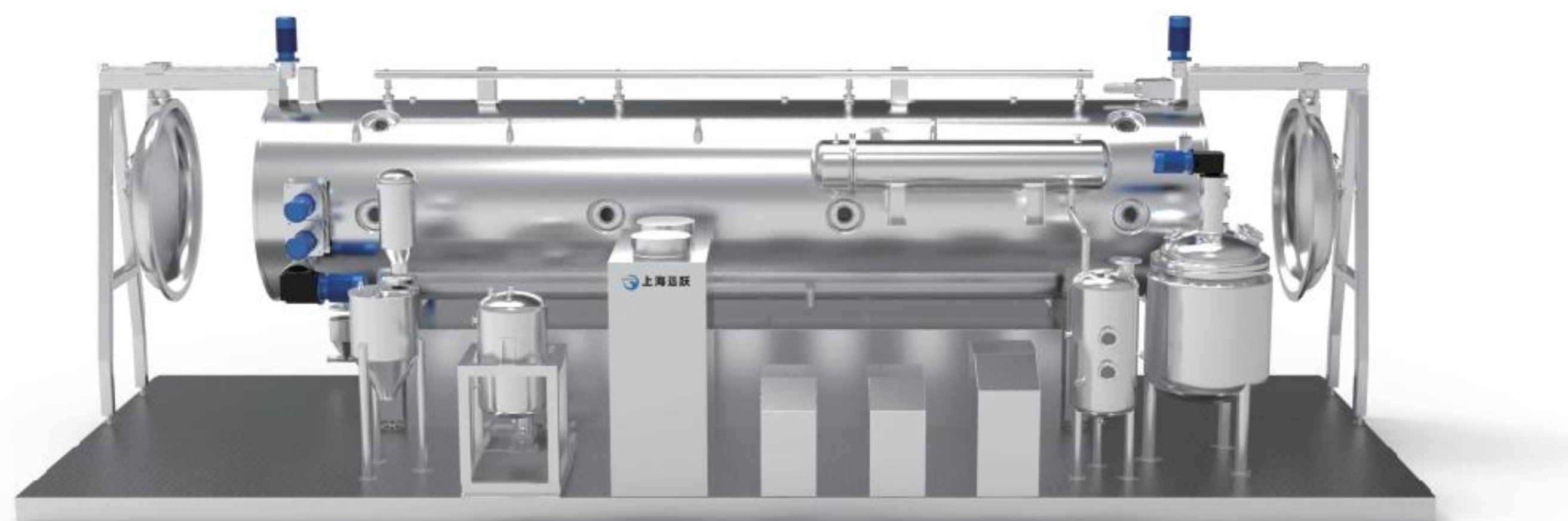
Vacuum continuous belt liquid drier allows continuous feeding and discharging of liquid materials for drying under vacuum and low temperature environment. The liquid material is conveyed into the dryer by the feed pump and evenly distributed on the low-speed belt; the low-point component will be evaporated in the high vacuum and discharged by the vacuum system. The heat medium in that heating plate can be steam or superheated water. The heating plate is controlled separately in temperature by layer and adjustable in temperature. The unloading end is provided with a vacuum crushing device for outputting finished product of a required particle size.

适用范围 Scope of application:

- 主要适用于植物提取物、生物工程、食品、保健品、化工原料等液态膏状物料；
Liquid paste materials such as plant extracts, bioengineering material, food, health products and chemical raw materials;
- 尤其适用于高附加值、具有热敏性、粘度高、不适用于喷雾干燥的物料；
Especially suitable for high value-added, heat-sensitive and high viscosity materials; not suitable for spray drying materials;
- 典型物料: 中药浸膏，植物提取浓缩液，植物发酵浓缩液，麦精，低聚糖，植物蛋白，调味品等。
Typical materials: Chinese medicinal extract, herbal extract concentrate, herbal fermentation concentrate, malt extract, oligosaccharide, plant protein, condiment, etc.

设备组成 Equipment composition:

干燥主机、进料系统、真空系统、加热系统、冷却系统、出料系统、CIP (SIP可选) 清洗系统，控制系统。
Main drying machine, feeding system, vacuum system, heating system, cooling system, discharging system, CIP (SIP optional) and control system.



产品优势Product advantages:

- 高真空低温无氧干燥,热敏性物料不变性;
High vacuum low temperature oxygen-free drying eliminates the risk of degeneration for heat sensitive material;
- 连续进料、连续出料,动态干燥,干燥时间可调 (30min-150min) ;
Continuous feeding and discharging, dynamic drying, and adjustable drying time (30 min-150 min)
- 干燥温度可调 (30°C-150°C) ,适应各种工艺要求的物料;
Drying temperature adjustable (30°C-180°C) to accommodate various process materials;
- 运行低成本,低噪音,低污染。
Low operation cost, noise and pollution;
- 带干机内部通过三维模拟进行喷嘴排布,同时喷淋履带上下表面,滚轴,托棍,前后封头等关键部位,实现无死角喷淋。
The spray nozzle inside the drier is arranged by 3D simulation technology, which will spray key parts like the top and bottom surface of the belt, rolling shaft, roller and front and back head to realize thorough spraying without dead legs.
- 全自动化控制,自动化程度高;
Full automation;
- 节约人工成本,最多两名操作人员;
Low labor cost, max. two operators required;
- 加热板激光焊接牢固,母材热影响区域小,板面不变形,与履带贴合紧密,传热效率高,终身免费维护。
The heating plate is laser welded. The heat effect area of the base metal is small. The plate is in shape and keep tightly attached with the belt, it has high heat transfer efficiency and does not need maintenance for lifetime.
- 旋转传动密封采用磁流体密封,密封效果好,密封部件使用寿命长;
Magnetic fluid rotary seal has good sealing effect and long service life of sealing parts;
- 摇摆布料采用伺服电机驱动,程序控制,布料均匀易控;
Swing distribution of material using servo motor drive under program control to make it more even and controllable;

- 采用半轴平移式纠偏,能够实现履带微小变形下的平移纠偏,纠偏感应距离和执行距离小,纠偏动作可靠。
It adopts half-axis parallel sliding anti-deviation technology, which can realize parallel sliding anti-deviation with slight deformation of the belt. The sensing distance and performing distance of anti-deviation is short. The anti-deviation action is reliable.
- 定量进料,自动出料,进出料管道化,物料损耗小,收率高(理论收率大于99%);
Quantitative feeding, automatic discharging, pipelined feeding and discharge, low material loss and high yield (theoretical yield is more than 99%);
- 自行设计的换热系统和专业模温机,可精确控制干燥温度。干燥温度控制在30°C-150°C;
Self-developed heat exchange system and professional mold temperature machine can accurately control the drying temperature between 30°C and 180°C
- 密闭的真空低温干燥环境,清洁,不染菌,有效保护热敏性物料;
Sealed vacuum and low-temperature dry environment, clean and free of bacteria, effectively protecting heat-sensitive materials;
- 节能降耗,能耗为真空干燥箱、喷雾干燥的30-40%,冷冻干燥的15%;
Minimized utility consumption: 30-40% of a vacuum drying oven and spray drying and 15% of freeze drying;
- 可视化人机界面,自动化、连续化生产,操作简便,节约人工成本。
User-friendly man-machine interface, automatic and continuous production, easy operation and saving labor cost.



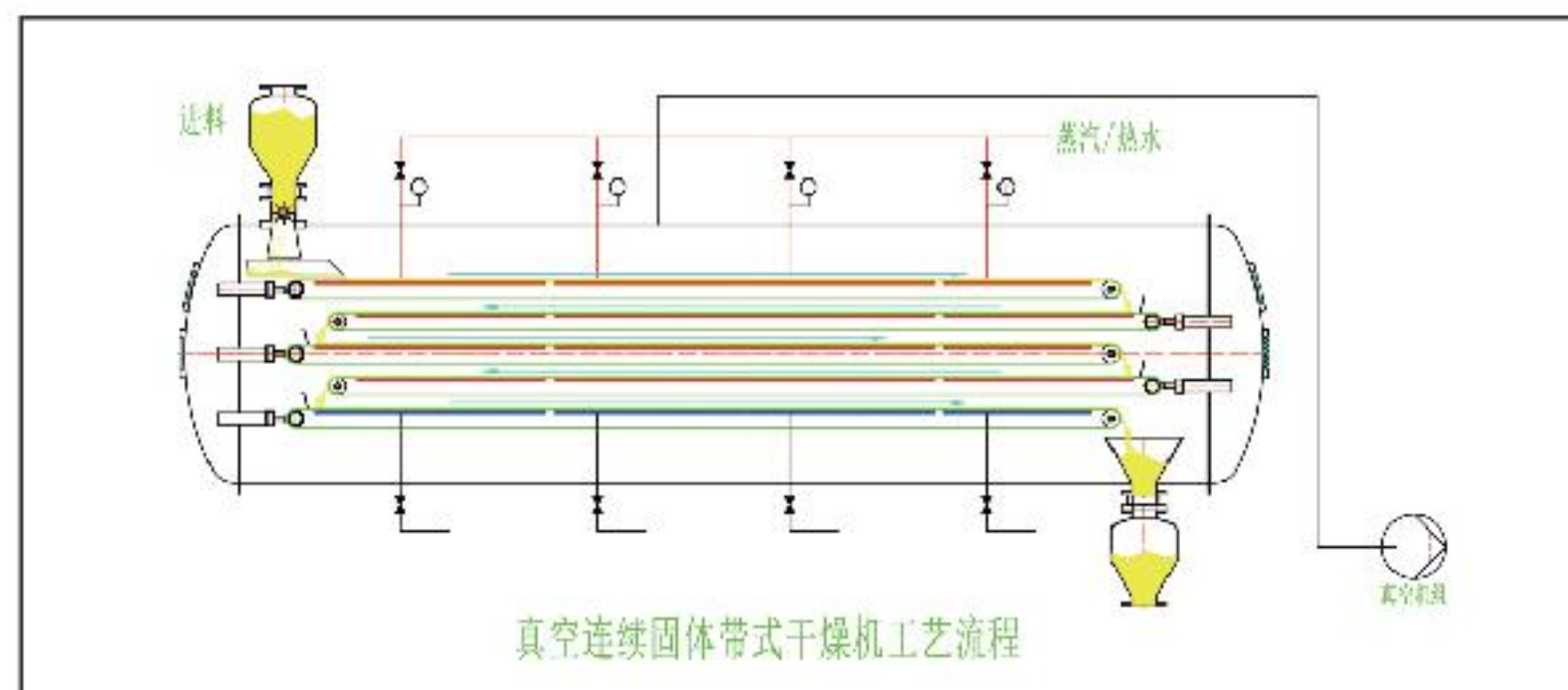
产品型号和技术参数表 Model and data sheet

设备型号 Model	筒体直径 Cylinder Diameter mm	筒体长度 Cylinder length mm	设备高度 Height mm	层数 Layer number	换热面积 Heat transfer area m ²	水蒸发量 Water evaporation kg/h	进料含水率 Water content in feed material %	干粉含水率 Water content in dry powder %	加热温度 Base machine power °C	主机功率 Cylinder Diameter kW
YD05-12-50-2	1200	5000	2350	2	5	3-4	20-80	0.5-5	30-150	5
YD10-14-60-3	1400	6000	2550	3	10	7-9	20-80	0.5-5	20-150	6
YD30-16-105-4	1600	10500	2750	4	30	23-28	20-80	0.5-5	30-150	6.5
YD60-22-105-5	2200	10500	3530	5	60	44-54	20-80	0.5-5	30-150	9
YD120-25-135-7	2500	13500	3830	7	120	88-106	20-80	0.5-5	30-150	13
YD160-28-165-8	2800	16500	4120	8	160	126-150	20-80	0.5-5	30-150	18
YD210-30-165-9	3000	16500	4350	9	210	162-194	20-80	0.5-5	30-150	24
YD250-32-165-10	3200	16500	4550	10	250	192-230	20-80	0.5-5	30-150	24

固体带干 Solid drier

工作原理 Working principle:

真空连续固体带式干燥机是在真空低温环境下含湿固态物料连续进料、连续出料的自动化干燥设备。固态物料通过与客户物料相适应进料装置输送到干燥机内，均匀铺布到低速运转的输送带上。输送带3-13层，端部错开布置，上层输送带上物料靠重力落到下层输送带上，逐层通过加热板加热蒸发水分。加热板内加热介质可以是蒸汽或过热水，温度30°C-180°C可调，加热板按层分区控温。



根据客户物料特性，干燥物料可机内冷却或机外冷却，需粉碎的可配置粉碎机。干燥时间30-150min可调。

Vacuum continuous belt solid drier allows continuous feeding and discharging of wet solid materials for drying under vacuum and low temperature environment. Solid material is fed into the drier through a highly adaptive feeder and spread evenly onto a low speed conveyor belt. Conveyor belts can be 3-13 layers as required and have the ends staggered to make the materials on the upper conveyor belt fall on the lower conveyor belt by gravity. Layer-by-layer transmission on the belt with heating plate in it provides complete evaporation of wet gradient in the materials. The heat medium in that heating plate can be steam or hot water, configurable in the temperature between 30 and 180C. The heating plate is controlled separately in temperature by layer. The material can be cooled inside or outside the machine base on the property of material. Crusher can be provided for crushing if necessary. Drying time is adjustable in 30-150mins.

适用范围 Scope of application:

- 主要适用于中西医药、食品、化工原料等含湿固体、结晶物、颗粒、粉末、丸剂等物料；
Wet solids, crystals, granules, powders and pills in the Chinese and western medicines, foods and chemical raw materials;
- 易爆、有毒、湿分有刺激性气味的物料；
Explosive, toxic, wet and pungent odor material;
- 含湿组分需回收物料。
Wet components to be recovered.

设备组成 Equipment composition:

干燥主机、进料系统、真空系统、加热系统、冷却系统、出料系统、CIP (SIP可选) 清洗系统，控制系统。

Main drying machine, feeding system, vacuum system, heating system, cooling system, discharging system, CIP (SIP optional) and control system.



产品优势 Product advantages:

- 高真空低温干燥,连续进料、连续出料,动态干燥,干燥时间可调 (30min-150min) ;
High vacuum and low temperature drying, continuous feeding and discharging, dynamic drying, and adjustable drying time (30 min-150 min)
- 干燥温度可调 (30°C-180°C) ,适应各种工艺要求的物料；
Drying temperature adjustable (30°C-180°C) to accommodate various process materials
- 分层分区控温,各区温度单独可调；
Separate and adjustable layer temperature control
- 干燥物料可机内冷却或机外冷却；
Dry materials can be cooled internally or externally.
- 运行低成本,低噪音,低污染；
Low operation cost, noise and pollution;
- 带干机内部通过三维模拟进行喷嘴排布,同时喷淋履带上下表面,滚轴,托棍,前后封头等关键部位,实现无死角喷淋。
The spray nozzles inside the drier are arranged by 3D simulation technology, which will spray key parts like the top and bottom surface of the belt, roller shaft, roller and front and back head to realize thorough spraying without dead legs.
- 全自动化控制,自动化程度高；
Full automation
- 节约人工成本,最多两名操作人员。
Low labor cost, max. two operators required.
- 加热板激光焊接牢固,母材热影响区域小,板面不变形,与履带贴合紧密,传热效率高,终身免费维护。
The heating plate is laser welded. The heat effect area of the base metal is small. The plate is in shape and keep tightly attached with the belt, it has high heat transfer efficiency and does not need maintenance for lifetime.

- 旋转传动密封采用磁流体密封，密封效果好，密封部件使用寿命长；
Magnetic fluid rotary seal has good sealing effect and long service life of sealing parts.
- 采用半轴平移式纠偏，能够实现履带微小变形下的平移纠偏，纠偏感应距离和执行距离小，纠偏动作可靠。
It adopts half-axis parallel sliding anti-deviation technology, which can realize parallel sliding anti-deviation with slight deformation of the belt. The sensing distance and performing distance of anti-deviation is short. The anti-deviation action is reliable.
- 定量进料，自动出料，全封闭，产品收率高（理论收率大于99%）；
Quantitative feeding, automatic discharging, fully closed, high product yield (theoretical yield greater than 99%);
- 自行设计的换热系统和专业模温机，可精确控制干燥温度。干燥温度控制在30°C-180°C；
Self-developed heat exchange system and professional mold temperature machine can accurately control the drying temperature between 30°C and 180°C
- 密闭的真空低温干燥环境，清洁；
Closed and clean vacuum low temperature drying environment
- 可视化人机界面，自动化、连续化生产，操作简便，节约人工成本。
User-friendly man-machine interface, automatic and continuous production, easy operation and saving labor cost.

产品型号和技术参数表Model and data sheet

设备型号 Model	筒体直径 Cylinder Diameter	筒体长度 Cylinder length	设备高度 Height	层数 Layer number	换热面积 Heat transfer area	水蒸发量 Water evaporation	进料含水率 Water content in feed material	干粉含水率 Water content in dry powder	主机功率 Cylinder Diameter
	mm	mm	mm		m ²	kg/h	%	%	kW
GD03-12-60-3	1200	6000	2350	3	3	1-1.5	2-80	0.2-5	6
GD30-16-90-5	1600	9000	2750	5	30	13-20	2-80	0.2-5	9
GD60-22-105-5	2200	10500	3530	5	60	26-46	2-80	0.2-5	12
GD120-24-150-7	2400	15000	3750	7	120	50-86	2-80	0.2-5	15
GD150-26-150-9	2600	15000	3950	7	150	70-120	2-80	0.2-5	17
GD220-28-165-9	2800	16500	4120	9	220	88-150	2-80	0.2-5	19
GD250-30-165-11	3000	16500	4350	11	250	100-175	2-80	0.2-5	21

2 智能化配液系统 Intelligent Liquid Preparation System

1-智能配液系统 Intelligent Liquid Preparation System

适用范围Scope of application:

制药、食品、化工等物料混合、混匀。
Even mixing of pharmaceutical, food and chemical material.

产品优势Product advantages:

- 达到无菌或高洁净要求，与物料接触部分电解抛光；
配置与细节远高于现行行业标准和GMP要求；
It meets the sterile and high clean requirement, the parts that contact the material are electro-polished; the configuration and details are higher than that of the current industry standard and GMP requirement.
- 集成化智能单元，产品工艺可预置，可实现加水、控温、加料、混合溶解、定容、循环过滤、调Ph、加辅料、监控泵压，残液空压转移、清洗、灭菌等一系列全自动操作。
The intelligent units are integrated and the product process can be preset. It can realize fully automatically operation of water supply, temperature control, material feeding, mixing and dissolving, constant volume, circulating filtration, PH adjustment, adjunct dosing, pump pressure monitoring, residual liquid transferring, cleaning and sterilization.
- 可实现系统清洗和独立清洗等多种清洗方案，实现无死角清洗，达到无菌要求。
It has multiple cleaning programs like systematical and independent cleaning to realize thorough cleaning and meet sterile requirement.
- 整体撬装配置，安装简洁方便，相比现场加工降低了对净化区气流组织影响；
The skid mounted configuration makes the installation more convenient. It lowers the influence on air flow of clean area compared to the field processing.



2-智能CIP清洗系统 Intelligent CIP system

工作原理Working principle:

通过设置程序（程序可调）由系统自动配置清洗液，经气动控制阀与送液泵、回液泵来完成清洗液的输送及回流循环清洗、排放、回收整个清洗过程。通过电导率检测仪及PLC触摸屏组成的控制系统达到了自动在线清洗。

The cleaning solution is automatically prepared as programmed (adjustable), conveyed, circulated, drained and recovered by the pneumatic control valve, the liquid delivery pump and return pump. Conductivity detector, PLC and HMI are provided to achieve the automation.

适用范围Scope of application:

广泛应用于生物发酵、制药等对清洗要求较高的行业，以达到卫生无菌的效果。
Widely used in bio-fermentation, pharmaceutical and other industries with high cleaning requirements to achieve sanitation and sterility.

设备组成Equipment composition:

智能型CIP系统为一中央集成系统，包含漂洗罐、清洗罐（I级清洗、II级清洗）、碱罐、酸罐、回收罐、板式换热器、管道过滤器、送液泵、回液泵、温度控制仪、液位控制仪、电导率检测仪、PLC触摸屏、控制柜及系统管阀件等组成。

The intelligent CIP system integrates rinsing tank, cleaning tank (level I cleaning and level II cleaning), alkali tank, acid tank, recovery tank, plate heat exchanger, pipeline filter, liquid feed pump, liquid return pump, temperature controller, liquid level controller, conductivity detector, PLC&HMI, control cabinet and pipe & valves.

3 非标不锈钢容器设备 Non-standard Stainless Steel Container Equipment

1-反应釜 Reactor

适用范围Scope of application:

主要用于制药、食品、化工等行业中物料的反应。

Used for the reaction of materials in the industries of pharmacy, food and chemical.

工作原理Working principle:

在一定的温度和压力下，借助搅拌器将一定体积的多种液体与固体或液体进行混合，促进其化学反应，通常伴随有热效应，由换热装置将所需热量输入或将生成热量移出。

A volume of a plurality of liquids is mixed with a solid or liquid by means of a stirrer at a temperature and pressure to promote a chemical reaction, usually accompanied by a thermal effect, in which the required heat is input or the generated heat is removed by a heat exchange.

产品优势Product advantages:

- 搅拌形式多为锚式或框式，确保物料在短时间内混合均匀；
The stirring forms are mostly anchor type or frame type, so as to ensure that the materials are uniformly mixed in a short time;
- 搅拌转速多配以变频调速，设有温度显示或控制；
Stirring speed is often adjusted by frequency converter with temperature display or control;
- 凡与物料接触的不锈钢均镜面抛光处理，能够实现CIP和SIP，符合卫生规范。
The stainless steel that contacts the material is mirror polished, which can realize CIP and SIP to conform hygienic norm;
- 夹套外覆盖有保温层，保温材料为优质的硅酸铝，保温隔热明显；
The jacket is covered with insulation layer, which is made of high-quality aluminum silicate, to better preserve and insulate heat;
- 优质的反应釜专用机械密封，极低的泄漏量，适应各种不同的反应条件要求；
The reactor applies specialized mechanical seal technology with extremely low leak volume to adjust itself to different reaction condition;
- 特殊的挡板设计，既可使搅拌混合更充分，又彻底解决挡板不易清洗的难题；
The reactor has special baffle, which can make the material be agitated and blended more sufficient, it also solves the problem that the baffle is hard to clean;
- 可以高温、高压、氯离子环境下安全运行。
It can safely run under high temperature, high pressure and chloride ion environment.



2-光刻胶、锂电新能源专用釜 Photoresist, Lithium Battery Special Reactor

适用范围Scope of application:

用于光刻胶、锂电池原料的反应，混合，分散。

Used for the reaction, mixing, and dispersion of photoresist and lithium battery materials.

产品优势Product advantages:

- 可以用于易燃、易爆、腐蚀性的物料；
Can be used for flammable, explosive, and corrosive materials;
- 设备升、降温迅速，釜内温差小，满足运行工艺参数；
Rapid heating and cooling of the equipment, small temperature difference inside the reactor, meeting operational process parameters;
- 表面电解抛光达0.2um；
Surface electrolytic polishing up to 0.2um;
- 可以在线清洗；
With CIP function;
- 机械密封自带收集槽，避免物料被污染。
Mechanical seal with built-in collection groove to prevent material contamination.

3-非标定制罐 Non-standard Customized Tank

可以根据客户需求设计不同的直径、高度及特殊要求的非标罐。

Design non-standard tank with different diameter, height and special requirement according to customer requirement.



4 EPC整体工程服务

EPC turnkey engineering service

1-EPC整体工程服务 EPC turnkey engineering service

远跃 EPC服务范围 Scope of UNIWIN EPC service

- 中药提取、浓缩、醇沉、酒精回收及干燥等全系列成套设备的设计、制造、安装、调试及验证的整体交钥匙工程；
Turnkey project service covering design, manufacture, installation, commissioning and qualification of complete equipment package such as extraction, concentration, alcohol precipitation, alcohol recovery and drying of herbal materials;
- 集成应用先进控制技术，完成中药提取自动化项目的整体设计、施工，负责编写满足GMP要求的计算机认证文件，实现产品质量均一性，提升中药行业制造技术水平；
Integrate advanced control technology, complete the overall automation design and construction of herbal materials project, compile GMP compliant computer validation documents, achieve product quality uniformity, and improve the manufacturing technology level;
- 提供工艺优化研究；
Provide process optimization research;
- 提供近红外实时监测系统；
Provide near infrared real-time monitoring system;
- 提供公共工程控制系统和能源计量系统；
Provide control system and metering system of utility;
- 提供中药生产智能质量信息管理系统。
Provide intelligent quality information management system for Chinese medicine production.

EPC优势 EPC advantages:

- 强调和充分发挥设计在整个工程建设过程中的主导作用。对设计在整个工程建设过程中的主导作用的强调和发挥，有利于工程项目建设整体方案的不断优化；
Emphasize and give full play to the leading role of design in the whole project construction process, which is conducive to the continuous optimization of the turnkey solution;
- 有效克服设计、采购、建设相互制约和相互脱节的矛盾，有利于设计、采购、建设各阶段工作的合理衔接，有效地实现建设项目进度、成本控制和质量控制符合建设工程承包合同约定，确保获得较好的投资效益；
Overcoming the contradiction of mutual restriction and disconnection among design, procurement and construction effectively is conducive to the reasonable connection of the work in each stage, and effectively realizes that the progress, cost control and quality control of construction projects conform to the stipulations of the contract, thus ensuring better investment benefits;
- 建设工程质量责任主体明确，有利于追究工程质量责任和确定工程质量责任的承担人；
The main responsibility of the construction project is clear at each level to facilitate investigating and determining the project quality responsibility;
- 业主需要做的是了解工程进度、了解工程质量是否达到合同要求，建设结果是否最终满足合同规定的建设工程的功能标准。
What the owner needs to do is to understand the progress of the project, the compliance of the project quality and final construction results.

系统工程项目 Project cases

示例1—浙江某项目：服务内容包括提取大楼工艺设计优化、工艺工程设计、工艺设备设计、工艺设备加工制造、车间工程安装、自动化系统设计、自动化系统安装。36套6T提取系统，1.3万个控制点。

Case 1-Zhejiang Project: The service content includes process optimization, engineering design, equipment design and fabrication, installation of workshop facility, design and installation of automation system in the extraction building, covering 36 sets of 6T extraction systems and 13,000 control points.

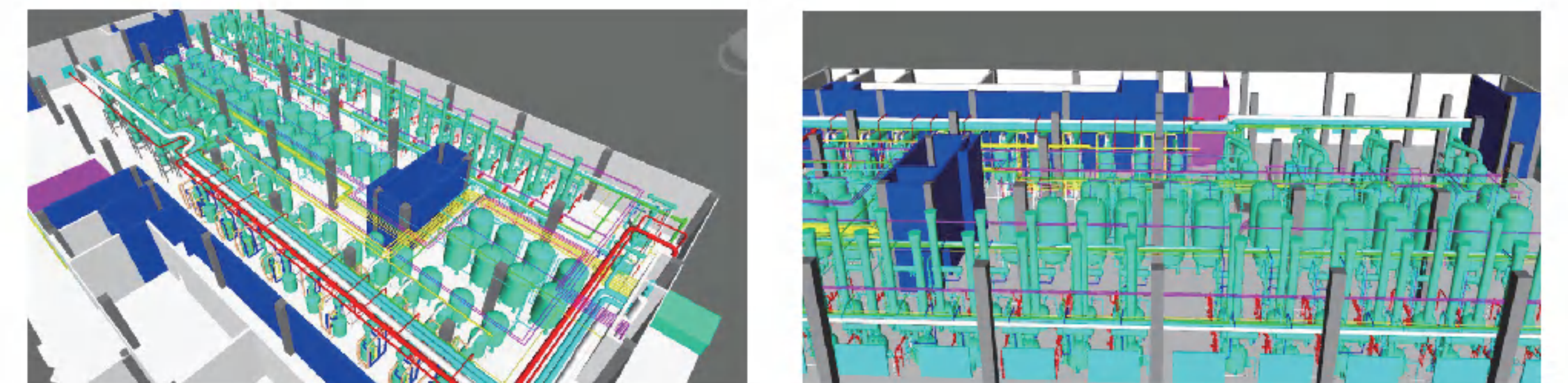


示例2—上海某项目：服务内容包括提取大楼工艺设计建模、工艺工程设计、工艺设备设计、工艺设备加工制造、车间工程安装、自动化系统设计、自动化系统安装。

Case 2-Shanghai Project: The service content includes modelling, engineering design, equipment design and fabrication, installation of workshop facility, design and installation of automation system in the extraction building.



三维设计 3D design



部分合作伙伴

排序不分先后·····

从客户最希望的事情做起,我们的使命就是让客户满意。

