



JUCHUANG

SOLUTION FOR INTELLIGENT EQUIPMENT IN FLUID SYSTEMS

流体系统智能设备解决方案



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EPC

一站式服务

炬创引进EPC (Engineering Procurement Construction) 一站式项目总包服务。承担项目设计、预算、设备材料采购、施工、试运行以及验收等所有阶段的全部工作，最终向客户提交一个满足使用功能、具备使用条件的项目，并承担项目的质量、进度、费用和安全方面的全部责任。

01 项目准备与筹划

PROJECT PREPARATION AND PLANNING

从项目合同的前期谈判开始算起，谈判的过程，就是沟通的过程，而结果就是形成合同。合同一旦签订，项目就正式开始实施。在开始实施之前，召集技术部相关工程师、采购部、生产部和质检部等相关部门，确定合适的项目管理人。

The process of negotiation calculated from the preliminary negotiation of the project contract is a process of communication, and the result is the forming of the contract. Once the contract is signed, the project will be formally started. Before the project is started, the relevant engineers in the technology department, the purchasing department, production department, quality control department and other concerned departments will convene to determine the suitable project manager.

02 整体方案设计

OVERALL PLAN DESIGN

据客户意愿设计出既符合工艺要求又与投资规划相匹配的整体解决方案。我们对工艺及工艺装备的设计极具经验，有专门的工艺及工艺装备设计团队，由工艺设计、自控设计、电气设计、三维安装结构设计等几个专业组成，按GMP、ASME要求进行设计、满足食药生化行业等要求。

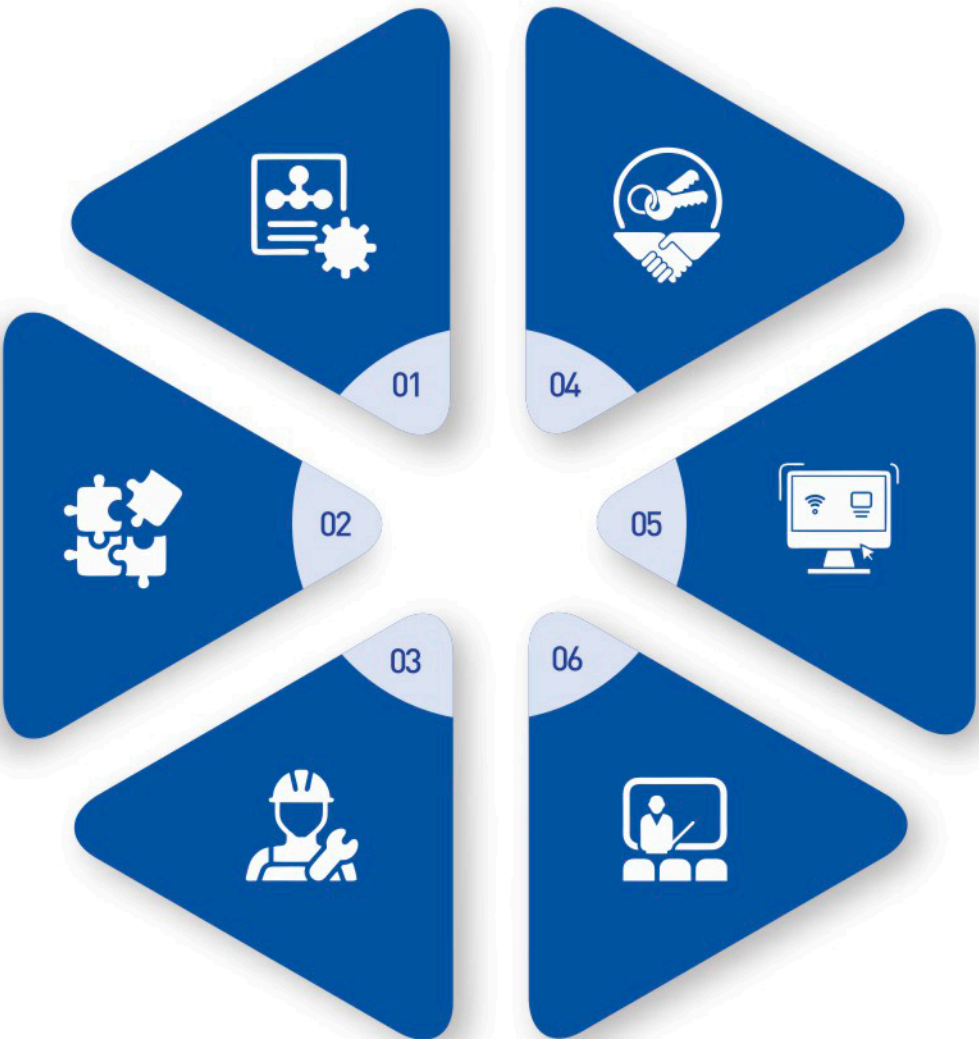
According to customer's willingness, design the best overall plan which not only meets the technological requirements, but also match with investment program. We are experienced in design of technology and equipment, with professional technical team composed of process design, auto control design, electric design and 3D installation design. It according to GMP ASME and other standards which will fulfill the needs of pharmaceutical and food industry.

03 项目施工

PROJECT CONSTRUCTION

核准的生产图纸是生产制造的依据，所有非现场制造的设备要经我们质量控制责任人的鉴定，以符合严格的规定，定期的检查确保分供应商也符合规定的质量标准。

The approved production drawing is the basis for production and manufacturing. All equipment that is not manufactured on the site shall be identified by our quality responsible person so as to meet the strict stipulations. The regular inspection can ensure the suppliers also meet the quality standards as stipulated.



04 交钥匙工程安装

TURNKEY PROJECT INSTALLATION

我们为您提供一站式服务，包括：工艺系统、净化通风、暖通给排水及厂区综合管线等各专业设计与施工，让您没有跨专业协调和交叉施工带来的烦恼。

Juchuang offers one-stop service to customers, which includes the design and construction with multiple professions of processing system, purification & ventilation, heating & ventilation, water supply & drainage, and factory piping, so that the customers will not have the troubles of cross-professional coordination and cross-construction.

05 自动化控制

AUTOMATIC CONTROL

炬创科技依托自身对食药生化等行业工艺的理解和专业的自控团队，致力于以专业的数字化整体解决方案为客户提供智能集成服务！

Juchuang committed to providing customers with the highest quality services of intelligent integration by professional digital overall solution proposal, relying on the professional technical team of automatic control system and its own understanding of the process of Chinese medicine industry and food industry.

06 人员培训、验证及售后服务

PERSONNEL TRAINING, VERIFICATION AND AFTER-SALES SERVICE

炬创科技拥有经验丰富的GMP验证团队，为客户提供系统的验证体系和培训，职业化的售后服务团队遍及世界各地。

Juchuang have an experienced GMP validation team to provide customers with systematic verification and training, and our professional after-sales service team is spread all over the world.

Introducing EPC (Engineering Procurement Construction) one-stop project general contracting service. Juchuang undertakes all tasks at all stages such as design, budgeting, equipment and material procurement, construction, trial running and acceptance check, finally provides customers with projects that meet the use functions and have use conditions, and assumes all responsibilities with respect to quality, progress, costs and safety of projects.

COMPANY PROFILE

企业简介



长沙炬创科技有限公司是集工程设计、工程安装、产品开发、产品销售、售后服务于一体的高科技企业，具有一、二类压力容器设计和制造资质以及压力管道安装资质。专业提供各种反应釜结晶罐等卫生级罐体、食品饮料及化工设备，配液系统、生物发酵系统、乳化系统、提取浓缩系统、制药用水及公用管道系统、CIP/SIP系统等成套设备，以及自动化控制系统和工艺洁净管道工程安装。

我们拥有先进的设备制造加工能力、经验丰富的工程技术人员和工程项目管理实力、专业且训练有素的设备和工程设计队伍，可根据用户的工艺要求，提供专业的二次设计、优良的产品和完善的工程服务，并提供从设备制造，安装调试，系统验证，一直到交钥匙工程，提供完整的DQ/IQ/OQ方案编制及服务，确保用户符合GMP/FDA要求。

我们一贯坚持“用户至上，品质至上”来不断地激励自己取得发展。我们根据不同用户的需求提供先进的系统解决方案和服务，把为用户提供优良的产品和优质的工程做为追求目标。

Changsha Juchuang Technology Co., Ltd. is a high-tech enterprise integrating engineering design, engineering installation, product development, product sale and after-sales service. We have the design and manufacturing qualifications of Class I and Class II pressure vessels and the installation qualification of pressure pipelines. We specialize in providing various types of reactors, crystallization tanks and other sanitary tanks, food, beverage and chemical equipment, liquid preparation systems, biological fermentation systems, emulsification systems, extraction and concentration systems, pharmaceutical water and public pipeline systems, CIP/SIP systems and other complete sets of equipment, as well as automatic control systems and process clean pipeline engineering installation.

We have advanced equipment manufacturing and processing capabilities, experienced engineering and technical personnel and engineering project management strength, professional and well-trained equipment and engineering design team. According to users' process requirements, we can provide professional secondary design, excellent products and perfect engineering services, and provide turnkey projects covering equipment manufacturing, installation and commissioning, system verification, etc. and provide complete DQ/IQ/OQ protocol preparation and services to ensure that users meet GMP/FDA requirements.

We have always been adhering to the principle of "customer first and quality foremost" to constantly motivate ourselves for development. We provide advanced system solutions and services according to the needs of different users, and take providing users with excellent products and high-quality projects as our goal.

公司愿景

用高质量的产品,做杰出的工程。
成为全球科技驱动型创新企业,以优越的技术和产品,
为客户创造价值,推动行业发展,为社会进步贡献力量。

公司使命

通过科技创新,为客户提供高品质的解决方案,
助力各行业提升效率、实现可持续发展。

经营理念

以品质为核心,以创新为驱动,
客户导向,团队协作,诚信经营,社会责任。

企业文化

开放包容,学习成长,关爱员工,
结果导向,感恩回馈,乐趣工作。

Company Vision

Achieving outstanding projects with high-quality products.
Becoming a global technology-driven innovative enterprise, and
creating value for customers, promoting the development of the
industry and contributing to social progress through superior
technology and products.

Company Mission

Through scientific and technological innovation, we
provide customers with high-quality solutions to help all
industries improve efficiency and achieve sustainable
development.

Business Philosophy

Taking quality as the core and innovation as the drive.
Customer-oriented, teamwork, sincere management
and social responsibility

Corporate Culture

Open and inclusive, learning and growth,
caring for employees, results-oriented,
grateful feedback, fun work.

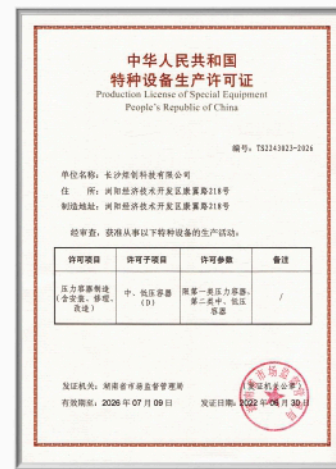


GLORY IS WITNESSED AND ACCOMPLISHED BY STRENGTH

荣耀见证，实力铸就

炬创科技把质量作为“生命工程”来建设，规范推进全方位的质量控制。质量文化已经渗透到研发、生产、销售和服务的每个细节当中。质量管理体系已全面与国际接轨，带领企业获得诸多荣誉的同时，更多地给予炬创公司客户真正的“上帝”般的消费体验。

Juchuang Technology regards quality as a "life project", standardizes and promotes all-round quality control. The quality culture has penetrated into every detail of R&D, production, sale and service. Our quality management system has been fully in line with international standards, giving customers of Juchuang a real godlike consumption experience while leading our company to win many honors.





等离子自动纵焊
Plasma automatic longitudinal welding



等离子自动环焊
Plasma automatic girth welding



等离子下料切割
Plasma blanking and cutting



铣边机
Edge milling machine



自动抛光机
Automatic polishing machine



旋压机
Spinning machine



数显万能式卷板机
Digital display universal plate bending machine



剪板机
Plate shearing machine

STRICTLY CONTROL EVERY PROCESS

严格把控每一道工序

从毛坯锻件到最终产品，炬创拥有先进的检验和测试设备进行质量控制。严格的工序检验贯穿整个生产过程，每个产品都按照客户的要求以国家标准或国际标准经过严格的检验，并在装运前进行最终检测。

Juchuang adopts advanced inspection and testing facilities to carry out quality control of forging blanks and final products. The strict procedure inspection is implemented throughout the whole production process. Each product undergoes strict inspection according to customer requirements or international standards, and is subject to final inspection before shipment.

我们始终坚守质量的防线。每一款产品，都经过严格的质量管控流程，确保产品的品质。

我们深知，优质的产品是企业生存的基石，也是赢得客户信任的关键。因此，我们不断优化生产流程，提升工艺技术，力求在每一个细节上做到最好。

We always stick to the defensive line of quality. Each product has undergone a strict quality control process to ensure product quality.

We are deeply aware that high-quality products are the cornerstone of enterprise survival and the key to winning the trust of customers. Therefore, we are constantly optimizing the production process, improving the process technology, and striving to do the best in every detail.

Solution For Intelligent Equipment
In Fluid Systems



光洁度仪
Finish meter



壁厚测量
Wall thickness measurement



X射线探伤室
X-ray flaw detection room



管道TIG自动焊
Pipe TIG automatic welding



光谱仪
PMI

SINCERITY AND TRUTHFULNESS, UNLIMITED INGENUITY

恪诚守真，匠心可鉴

矩创在与客户的长期合作交流中，我们积累了许多宝贵的经验，从您的需求和应用出发，为客户提供整体解决方案和一站式服务。帮助客户改善节能效益、降低使用成本，实现客户低碳、环保的价值追求，构建健康、和谐的城市环境。

Juchuang in the long-term cooperation and exchanges with our customers, we have accumulated a lot of valuable experience, starting from your needs and applications, providing customers with total solutions and one-stop service. Help customers improve energy efficiency, reduce costs and achieve customer low-carbon, environmentally friendly pursuit of value, build a healthy and harmonious urban environment.



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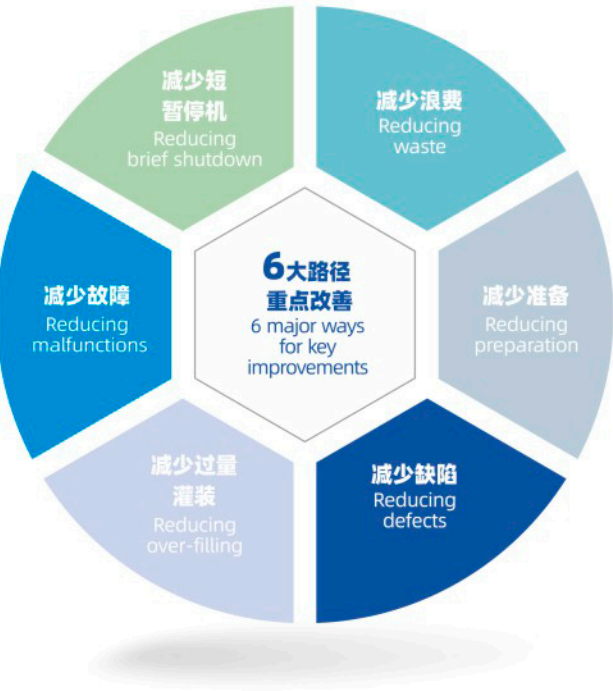
With modern rational scientific
design concept to create professional

以现代理性科学的
设计理念来造就专业

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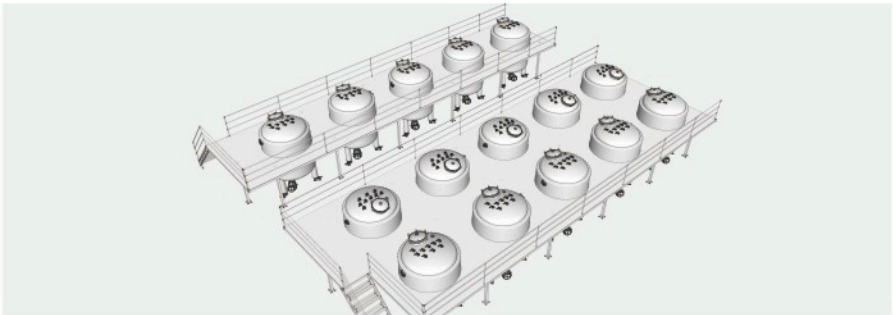
3D CONCEPT DESIGN

3D概念设计



矩创为客户解析完整的运营成本结构，识别出潜在的节约机会，并依靠六大路径实施改进，以设备运行数据分析为基础，显著提高整体绩效水平，带来可量化的成本削减。

Juchuang analyzes a complete structure of operation costs, recognizes potential saving opportunities and makes improvements through six major ways for customers, so as to prominently enhance the overall performance and bring quantifiable cost reduction on the basis of analyzing equipment running data.



矩创为客户提供整体解决方案，矩创强大的研发团队，帮助客户提高机器效率、改善产品质量，从而保护产品品质。

矩创研发中心收到来自全球各地的需求，针对性开放升级产品，提供设备性能，为客户传递更多价值。

Juchuang provides overall solutions for customers. With powerful R&D team, Juchuang helps customers to enhance machine efficiency, improve product quality, and further protect product quality.

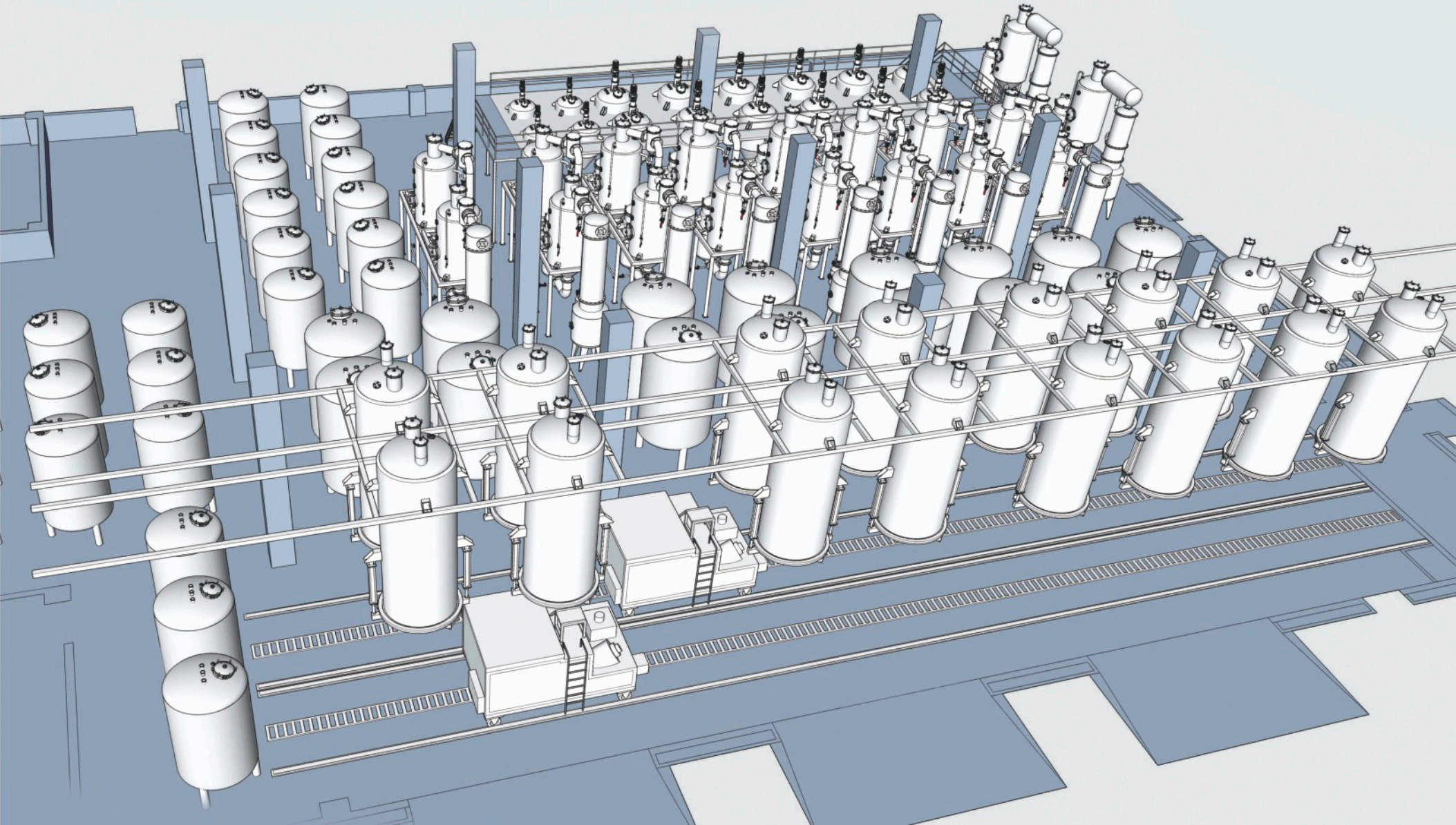
Juchuang R&D center receives the demands from all over the world, upgrades products according to specific requirements, enhances equipment performance and creates more value for customers.

客户要求
Customer requirements

可行性分析
Feasibility analysis

研发
Research and development

测试
Test



STERILE FORMULATION PREPARATION SYSTEM

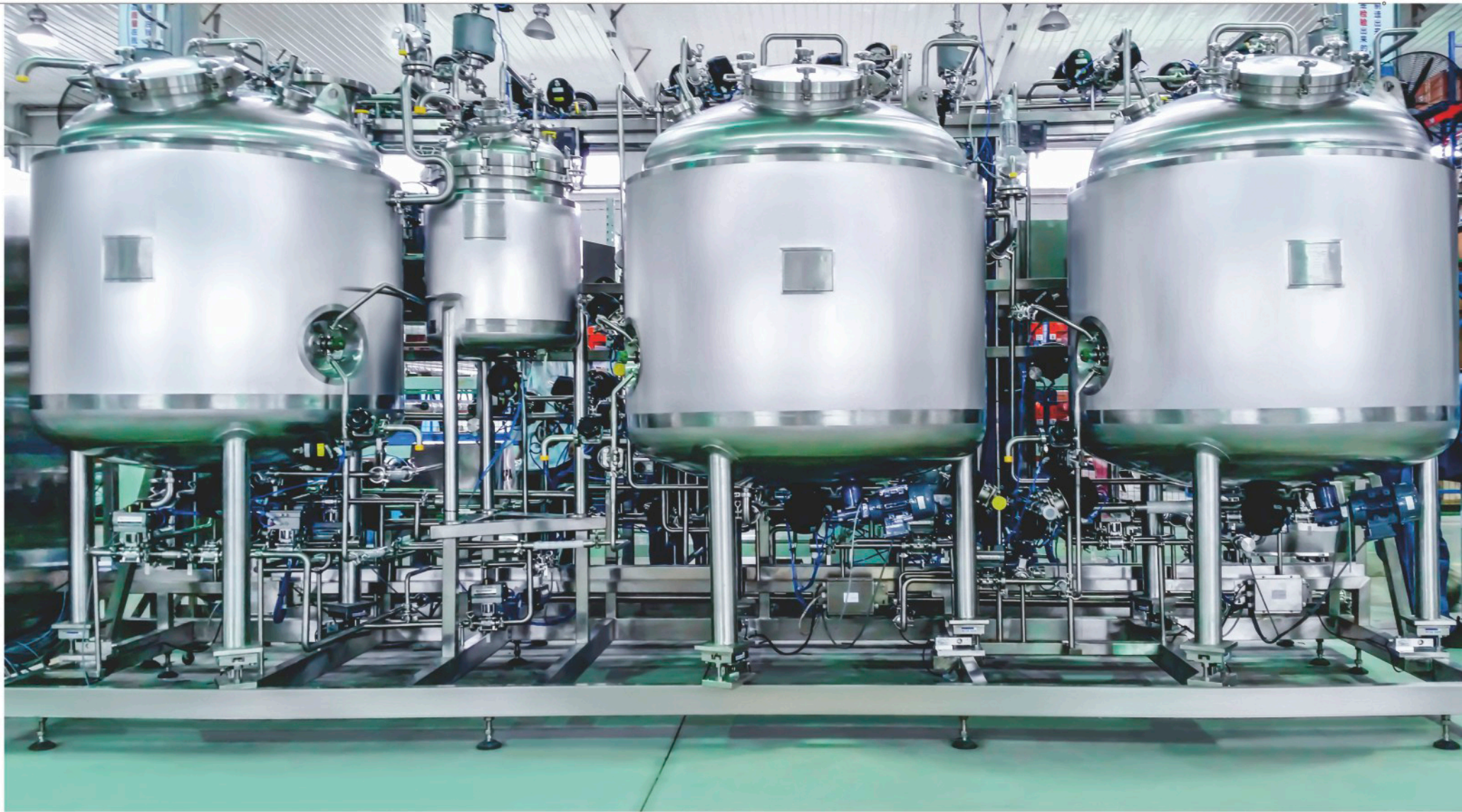
无菌制剂配液系统

设备介绍

为制药企业提供各种剂型的无菌配液系统，包括大输液、水针、冻干粉针、滴眼剂和口服液等，产品分为水溶性和油性。系统采用3D模块化设计，外型紧凑、美观、大方。系统所需的罐、泵、换热器、过滤器、阀门、管道、仪表等主材均选用国际、国内优秀品牌，在基础上保证系统整体质量。设备控制系统硬件选择基于目前世界上广泛应用的标准模块，其中PLC选择西门子300系列，HMI选择MP277系列的触摸屏。程序的设计、检查和构成符合GAMP5的V-模型，软件模型适用于所有的S7 PLC系统。程序设计参照了GAMP5进行了优化设计，提高了程序的稳定性，并且有相关的文件进行支持，确保系统的可追溯性。系统可实现生产、清洗和灭菌的全自动控制。为考查配液系统在未来可能发生的种种情况下能否稳定地生产出符合质量需求的产品，会对系统进行验证，主要活动和测试包括：风险评估(RA)/设计确认(DQ)/安装确认(IQ)/运行确认(OQ)。

EQUIPMENT DESCRIPTION

Juchuang provide sterile preparation for in variety of pharmaceutical formulation, involving transfusion, injection, freeze-dried powder, eye drops and oral liquid etc. Products are divided into water soluble and oil soluble. Using 3D modular design, compact, beautiful and generous. The pump, heat exchanger, valves, pipeline materials required by equipment are used for outstanding international brands, to ensure the quality of the system. The selection of control system hardware is based on the standard module widely used in world. For PLC we use SIEMENS 300 series, MP277 series of touch screen for HMI. The program design, check and constitute are in conjunction with V- GAMP5 model, the software model is applicable to all the PLC S7 system. The design of program refers to the GAMP5 to optimize the design, improving the stability of the program, and there are relevant documents to support, to ensure the traceability of the system. The system can realize automatic production, clean and sterilization. In order to check whether the purified water system can produced stably in accordance with the quality requirements in a variety of situations that may occur in the future, Juchuang verify and test the system involving: risk assessment (RA) /design qualification (DQ)/installation qualification (IQ) operational qualification (OQ).



特点说明

- 采用模块化设计理念，系统由数个模块组成，可以在线三维模拟用户公共工程的条件对系统做测试，可及早发现问题。
- 模块便于运输。测试好的模块运至客户现场，只要连接好各项公共工程，如水、电、压缩空气，蒸汽等，就可以很快投入使用。比传统到现场组装方式，可节约至少两个月时间。
- 本系统分成四个模块，每个模块及相关管道可单独清洗、灭菌，CIP时间只需要25分钟，SIP 1.5个小时，可节省传统CIP及SIP整个系统时间5小时以上。
- 由于各个模块段可独立CIP、SIP及进行工艺流程，因此可达成连续生产，可提高生产线利用率，增加产能50%以上。
- 采用对接系统(Docking system)及软管对接移动罐方式，生产更有弹性。
- 采用转接板(Transfer plate)，可避免交叉污染。

DESCRIPTION OF FEATURES

- It adopts modular design concept. The system consists of several modules, which can test the system by adopting on-line 3D simulation of user's utility conditions, so that problems can be detected early.
- The module is easy to transport. The tested modules are shipped to the customer site, and as long as various utilities such as water, electricity, compressed air, steam, etc., are connected, it can be put into use very quickly. It saves at least two months compared with traditional on-site assembly.
- This system consists of four modules. Each module and relevant pipes can be cleaned and sterilized separately. CIP only takes 25 minutes and SIP 1.5 hours, saving more than 5 hours for the system compared with traditional CIP and SIP.
- As each module section can be independent from CIP and SIP for process flow, continuous production can be achieved to enhance the utilization rate of production line and enhance production capacity by more than 50%.
- It adopts the docking system and tube connection with moveable tank, so that the production is more flexible.
- It adopts the transfer plate to avoid cross-contamination.

FERMENTATION TANK

发酵罐



单级发酵模块
Single stage fermenting module



多级发酵模块
Multi-stage fermenting module

- 搅拌系统

- 常用齿轮减速与皮带轮减速可选；
- 电机减速机优选国内外知名品牌；
- 搅拌形式有各类型涡轮搅拌、宽叶搅拌、桨式搅拌等。

- 发酵罐类型

- 根据微生物种类可分为好氧性发酵和厌氧性发酵；
- 根据物料状态可分为固体发酵和液体发酵；
- 根据结构类型可分为机械搅拌通风发酵罐、气升式发酵罐等。

- 适用范围

发酵设备是广泛用于微生物生长的一种反应设备。在发酵罐中各种微生物在适当的环境中生长，新陈代谢和形成发酵产物。发酵设备目前已广泛地用于制药、味精、酶制剂、食品、啤酒等行业。

- 炬创产品优点

- 按ASME洁净设备标准及国标《压力容器》进行设计、制造及检验；
- 质量稳定可靠、搅拌系统选型节能合理、内表面
- 抛光精度至 $Ra \leq 0.4\mu m$ 、光滑易清洗无死角。

- APPLICATION RANGE

Fermentation equipment is a kind of reaction equipment widely used for the growth of microorganisms. Various microorganisms grow, carry out metabolism and form fermentation products in the fermentation tank in a suitable environment. Fermentation equipment has been widely used in such industries as medicine, MSG, enzyme preparation, food, beer, etc.

- FERMENTATION TANK TYPE

- According to the type of microorganisms, classified into aerobic fermentation and anaerobic fermentation;
- According to the state of the material, classified into solid fermentation and liquid fermentation;
- According to the type of structure, classified into mechanical mixing and ventilation fermentation tank, airlifted fermentation tank, etc.

- MIXING SYSTEM

- Commonly gear reduction and pulley reduction are optional.
- The motor reducers are all nationally and internationally well-known brands.
- Mixing forms include various types such as turbine mixing, wide blade mixing, paddle mixing, etc.

- ADVANTAGES OF TANLET PRODUCTS

- Designed, manufactured and inspected according to ASME clean equipment standards and national standard "Pressure Vessels" ;
- Stable and reliable quality, energy-saving and reasonable type of mixing system, interior surface
- polishing precision $Ra \leq 0.4\mu m$, smooth and easy to clean without any dead corner.



BIOREACTORS AND DOWNSTREAM PROCESSES FOR FERMENTATION

生物反应器及发酵下游工艺



A 配液模块
Preparation Skid

B 纯化浓缩模块
Purification and concentration skid

C 灭活模块
Inactivation skid

D 乳化模块
Emulsification module

E 培液模块
Vaccine formulation skid

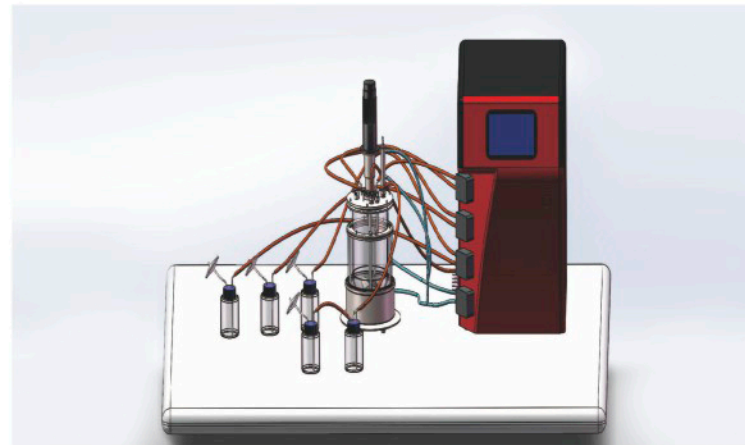
F 活毒废水灭活系统
Live virus Wastewater inactivation system

设备介绍

炬创科技为疫苗、单抗药物、重组蛋白药物等生物制药企业提供从实验室研发、中试直到工业生产全系列的生物反应器和创新的解决方案。罐体的设计和制造完全独立研发，并严格依照ASM EBPE和相关规范的最高标准进行专业的设计和制造，同时符合中国压力容器相关规范，满足客户的需求。

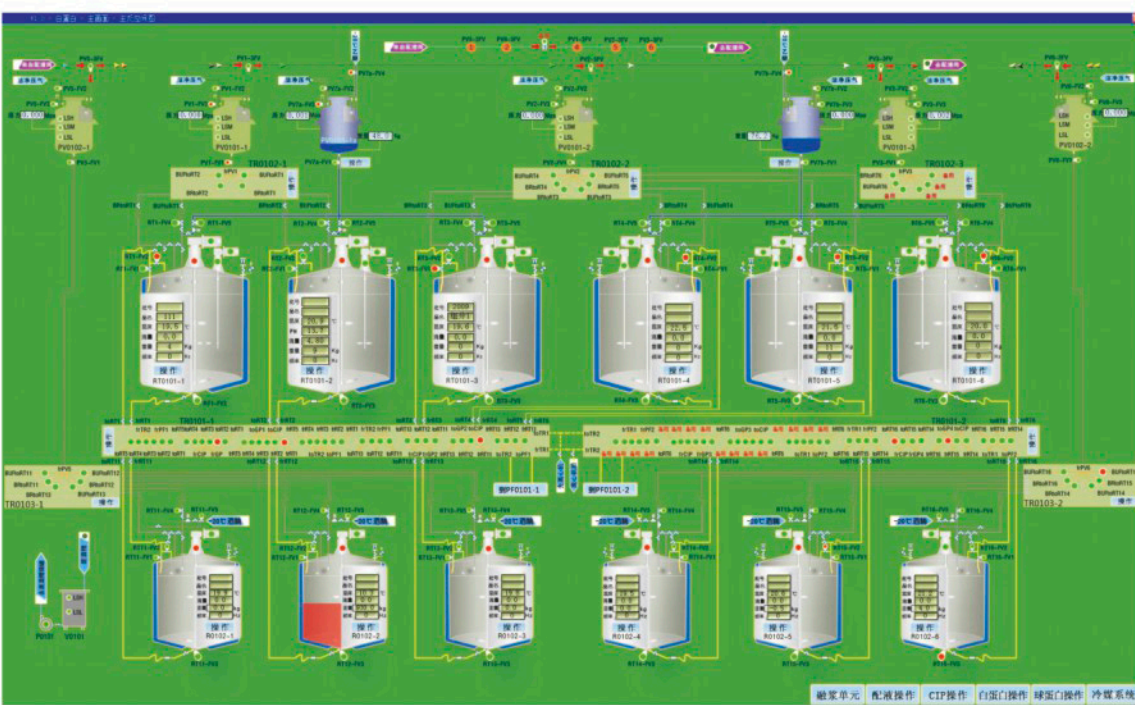
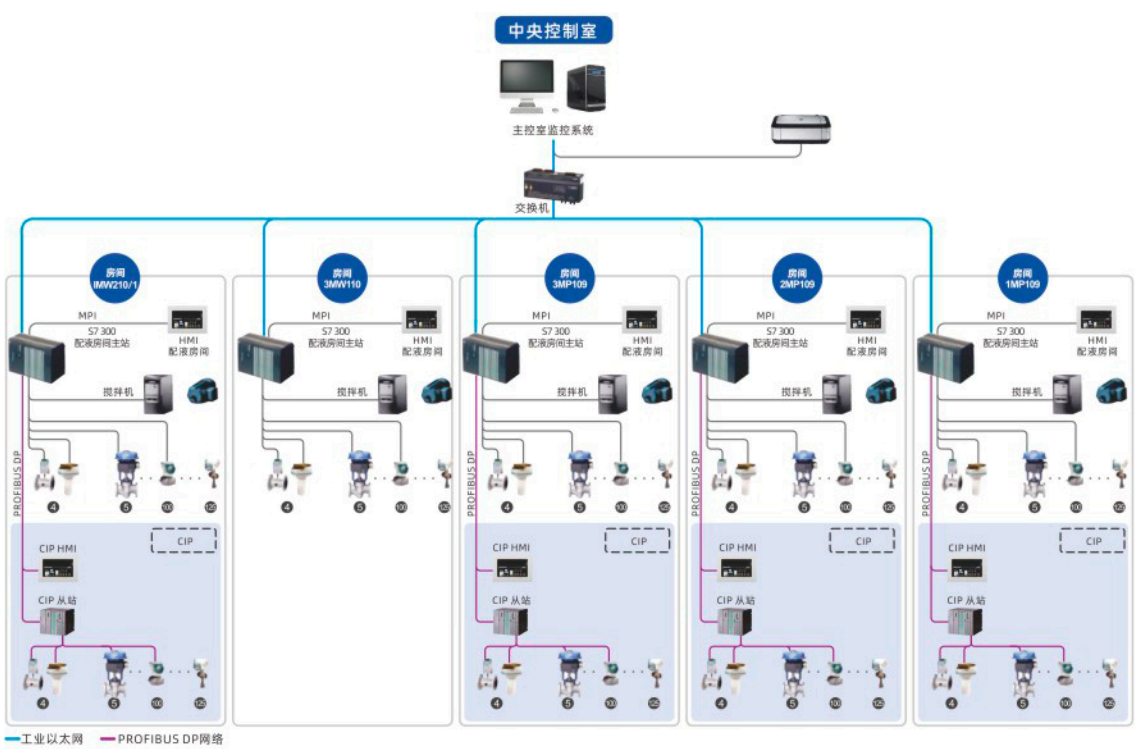
EQUIPMENT DESCRIPTION

Juchuang can provide innovative solutions from Laboratory research, Pilot scale to commercial production. Design and manufacturing are independently and strictly in accordance with ASM EBPE, China pressure vessel code and other related highest industry standard to meet the requirement of clients.



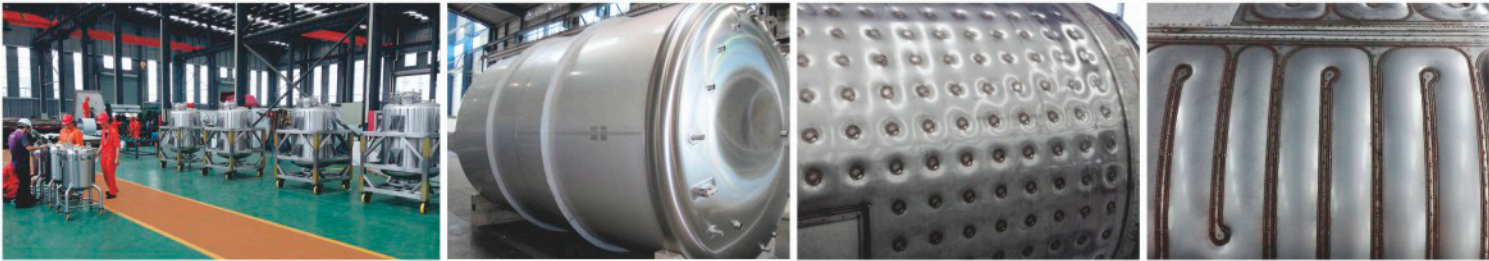
SYSTEM CONTROL LOGIC AND SYSTEM CONTROL PID PICTURE

系统控制逻辑及系统控制PID画面



STAINLESS STEEL VESSEL SERIES

不锈钢容器系列



本系列设备完全按国家《药品生产质量管理规范》“GMP”对设备的要求；并按《钢制压力容器》（GB150-1998）《钢制焊接常压容器》（JB/4735-1997）等标准设计、制造、适用于制药工业的净化区域等液体制剂（品）工艺和各类水处理工艺。

The equipment of this series completely conforms to the requirements of national “Good Manufacturing Practices” “GMP” for equipment; and is designed and manufactured according to “Steel Pressure Vessels” (GB150-1998), “Steel Welded Atmospheric Pressure Vessels” (JB/4735-1997). It is suitable for liquid preparation (product) processes and various water treatment processes in purification areas of the pharmaceutical industry.

设备介绍

- 设计制造符合ASME BPE标准规范，满足cGMP、FDA要求；
- 容积内表面抛光（机械、电解抛光），粗糙度Ra小于等于0.38μm；
- 整体、蜂窝、半管夹套方式实现容器内介质的温度交换；
- 符合奥氏体不锈钢，采用无氯保温材料，整体焊接或法兰结构，易清洁，美观大方；

EQUIPMENT INTRODUCTION

- Design and manufacture are in accordance with ASME BPE standard, which also meets the requirements of cGMP & FDA.
- Internal surface is mechanically polished or electropolished, which is less than 0.38μm.
- To utilize Full jacket, dimple jacket and half coil tube under different conditions to realize temperature exchange.
- Use stainless steel and chloride-free as insulation material. Alternate integral welding or flange to ensure equipment can be cleaned easily.



PHARMACEUTICAL MATERIAL REACTOR, CRYSTALLIZATION TANK

原料药反应釜、结晶罐



反应罐

不锈钢反应罐系列是医药、化工等领域常用的反应设备之一，它是一种在一定的温度和压力下，借助搅拌器将一定体积的两种(或多种)液体与固体或液体进行混合，促进其化学反应的设备，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。搅拌形式多用锚式或框式，确保物料在短时间内混合均匀。

搅拌转速多配以变频调速，设有温度显示或控制。

REACTION TANK

The stainless steel reaction tank is one of the reaction equipment commonly used in medicine, chemical industry, etc. It is a kind of equipment that mixes two kinds (or more kinds) of liquids and solids of certain volume and promotes their chemical reaction by using the mixer under certain temperature and pressure. It is often accompanied by heat effect. The heat exchanger is used to input the heat required or move the heat produced out. The mixing forms include multi-purpose anchor type or frame type, so as to ensure even mixing of materials within a short period of time.

The mixing rotation speed adopts variable frequency speed adjustment. It is provided with temperature display or control.





TCM EXTRACTION SYSTEM

中药提取系统



提取车间
Extraction workshop



气动投料筒
Pneumatic feeding barrel



旋转式提取罐
Rotary extraction tank



多爪式提取罐
Multi-claw extraction tank



中药提取系统可用于中药、食品、化工行业的常压、微压、水煎、温浸、热回流、强制循环、渗漉、芳香油提取及有机溶剂的回收等多种工艺操作。设备配备CIP清洗自动旋转清洗球，温度计、视镜视镜、快开人孔投料口等，操作简便，符合GMP要求。成套设备包括：除沫器、冷凝器、冷却器、油水分离器、过滤器、气缸控制箱等。

炬创科技为整个制药行业的全生命周期提供全面的自动化、信息化整体解决方案。在制药自动化解决方案中，炬创科技整合了自身的设备及验证能力，可以为制药行业提供包括公用工程控制系统，工艺过程控制系统，工厂信息化系统等各种解决方案。

The traditional Chinese medicine extraction system can be used in a variety of process operations such as atmospheric pressure, micro pressure, water decoction, warm soaking, hot reflux, forced circulation, percolation, aromatic oil extraction and recovery of organic solvents in such industries as traditional Chinese medicine, food and chemical industry. Equipped with the CIP cleaning automatic rotating cleaning ball, thermometer, sight glass, quick-opening manhole, feeding port, etc., the equipment is easy to operate and meets GMP requirements. The complete set of equipment includes: defoamer, condenser, cooler, oil-water separator, filter, cylinder control box, etc.

Juchuang Technology provides comprehensive automation and informatization solutions for the full life cycle of the pharmaceutical industry. Among the solutions for pharmaceutical automation, by integrating its own equipment and validation capacity, Juchuang is able to provide the pharmaceutical industry with various solutions such as utility engineering control systems, process control systems and plant informatization systems.



TCM CONCENTRATION SYSTEM

中药浓缩系统

特点

- 节能节水，不浪费一“滴”蒸汽；
- 高效运行，设备稳定不晃动、效率高；
- 缩短浓缩时间（有利于热敏性物料）；
- 防跑料、防结焦、药液损耗控制到最低；
- 减少酒精损耗，甚至零损耗；
- 清洗效率高，长时间运行不打折扣。



FEATURES

- Energy saving, water saving, without wasting any steam
- Efficient running, stable equipment with high efficiency and without shaking
- Shortened concentration time (beneficial for heat sensitive materials)
- Preventing material loss and coking, minimizing the loss of liquid medicine
- Reducing alcohol consumption, with even zero consumption
- High cleaning efficiency, no discount after long-time running



PURIFIED WATER GENERATOR

纯化水机



设备介绍

根据不同的原水水质，为客户提供合理的工艺设计，确保纯化水机能长期稳定生产出符合药典标准的纯化水。

将原水通过各种净化工序转化为纯化水或高纯水的设备，预处理工艺包含原水箱、机械过滤器、活性炭过滤器、软化器等多种工艺组合；纯化工艺包含RO+EDI、RO+RO、RO+RO+EDI、RO+EDI+UF等多种组合形式，产水水质符合中国药典、欧洲药典、日本药典和美国药典的需求；采用超滤技术可制备符合欧洲药典的高纯水。整机采用模块化的生产，结构合理紧凑，占地面积小；具有完善的控制系统，保障水机安全可靠的运行；采用双软化器串联设置，防止因为工艺设备备用带来的死水；整个工艺无中间水箱，具有低污染风险等优势；采用双管路纯水供应，具有独特的水机内循环模式，可实现水机内循环。

设备特点

- 模块化设计
- 结构紧凑
- 全自动控制及灭菌
- 独特卫生型内部循环设计
- 符合FDA及欧盟GMP要求

FEATURES

- Modular Design
- Compact conformation
- Automatic control and sanitization
- Special sanitary circulation design
- Meeting the requirements of FDA and European GMP

EQUIPMENT DESCRIPTION

Based on different raw water quality, Juchuang provide reasonable process design to our client. Which also ensure that the machine can stability produce purified water in line with the Pharmacopoeia standards.

Purified water generator is the equipment that turns the raw water into purified water or high purity water through various purification processes. Pre-treatment includes raw water tank, Mechanical filter, active carbon filter, softening device and other process combination; the purified process includes O+EDI, RO+RO, RO+RO+EDI, RO+EDI+UF and other process combination. Water quality is in line with China Pharmacopoeia, the European Pharmacopoeia, the Japanese Pharmacopoeia and the FDA requirements. Using ultrafiltration technology can generate high purity water that in line with the European Pharmacopoeia. The machine adopts modular design, including reasonable structure compact, small footprint, perfect control system. All process ensure that the machine operation safe and reliable. Double softener is used in series to prevent stagnant water reserved by process equipment. The entire process eliminate the middle water tank, so the system has lower pollution risk and other advantages. Using dual water supply, the machine has a unique inner circulation mode, can realize inside cycle.

Solution For Intelligent Equipment
In Fluid Systems

MULTI-EFFECT WATER DISTILLATOR

多效蒸馏水机

设备介绍

炬创JC系列多效蒸馏水机设计完全符合cGMP、FDA要求，能够生产出高质量的注射用水，满足对制药行业和生物制品行业中注射用水的要求。JC系列蒸馏水机利用蒸汽进行加热并实现多效蒸馏的功能，采用三级分离工艺，整机采用西门子S7系列控制系统，带有双语（中文和英文）操作语言，方便客户使用。



EQUIPMENT DESCRIPTION

The design of JC series multi-effect water distillator completely meets the requirements of cGMP and FDA. JC series multi-effect water distillator can generate high-quality WFI smoothly by use of steam heating multi-effect distillation and three stage separation process. The whole equipment is controlled by Siemens S7 series control system with bilingual (English and Chinese) system, which make the machine easy to use by client.

CREATE PROFESSIONAL
FLUID EQUIPMENT

BUILD THE FUTURE
OF QUALITY ENGINEERING

PURE STEAM GENERATOR

纯蒸汽发生器

- 设备介绍

炬创科技纯蒸汽发生器设计完全符合cGMP、FDA要求，能够生产出高质量的纯蒸汽。炬创科技纯蒸汽发生器利用蒸汽进行加热并实现多效蒸馏的功能，采用三级分离工艺，保证最终的纯蒸汽冷凝液质量符合注射用水水质指标；具有连续去除不凝性气体的专利技术，炬创科技纯蒸汽发生器所制备的纯蒸汽广泛用于制药灭菌工艺，整机采用西门子S7系列控制系统，带有双语（中文和英文）操作语言，方便客户使用。

- EQUIPMENT DESCRIPTION

The design of Juchuang Pure steam generator completely meets the requirements of cGMP and FDA. Juchuang multi-effect water distillator can generate pure steam which condensate is qualified by GMP test smoothly by use of steam heating multi-effect distillation and three stage separation process. Also we have proprietary technology of continuous removal of non-condensing gas. The pure steam of generated by Juchuang Pure steam generator is used in sterilization process extensively. The whole equipment is controlled by Siemens S7 series control system with bilingual (English and Chinese) system, which make the machine easy to use by client.

CLEAN UTILITY

洁净公用工程

- 设备介绍

分配系统是将储存的制药用水输送到工艺用点，并保证其压力、流量和温度符合工艺用点的需求。分配系统对制药用水的流量、压力、温度、总有机碳、电导率、臭氧等进行在线监测与控制，并通过周期性灭菌方式来有效控制水中微生物负荷。

为制药企业提供纯化水系统的储存与分配SKID，可提供巴氏消毒、臭氧消毒、纯蒸汽灭菌或过热水灭菌等多种消毒模式。设备采用3D模块化设计，外型紧凑、美观、大方。设备所需的泵、换热器、阀门、管道等主材均选用国际优秀品牌，保证系统的整体质量。设备控制系统硬件选择基于目前世界上广泛应用的标准模块，其中PLC选择西门子300系列，HMI选择MP277系列的触摸屏。程序的设计、检查和构成符合GAMP5的V-模型，软件模型适用于所有的S7 PLC系统。程序设计参照了GAMP5进行了优化设计，提高了程序的稳定性，并且有相关的文件进行支持，确保系统的可追溯性。为考查纯化水系统在未来可能发生的种种情况下能否稳定地生产出符合质量需求的产品，会对系统进行验证主要活动和测试包括：风险评估(RA)/设计确认(DQ)/安装确认(IQ)/运行确认(OQ)。系统完全满足FDA cGMP、EU GMP、WHO GMP和SFDA GMP的相关要求。

- EQUIPMENT DESCRIPTION

Distribution system is to distribute the water to process use points, while ensuring pressure, flow and temperature in line with the needs of the process point. The system monitoring and control water flow, pressure, temperature, total organic carbon, electrical conductivity, ozone and control the microbial load in water through cyclical sterilization.

Provide purified water storage and distribution system SKID for pharmaceutical companies. System can realize pasteurization, ozone disinfection, pure steam sterilization or hot water sterilization and other disinfection mode. Using 3D modular design to ensure compact, beautiful and generous. The pump, heat exchanger, valves, pipeline materials required by equipment are used for outstanding international brands, to ensure the quality of the system. The selection of control system hardware is based on the standard module widely used in world. For PLC we use SIEMENS 300 series, MP277 series of touch screen for HMI. The program design, check and constitute are in conjunction with V-GAMP5 model, the software model is applicable to all the PLC S7 system. The design of program refers to the GAMP5 to optimize the design, improving the stability of the program, and there are relevant documents to support, to ensure the traceability of the system. In order to check whether the purified water system can produced stably in accordance with the quality requirements in a variety of situations that may occur in the future, Juchuang verify and test the system involving: risk assessment (RA) / design qualification (DQ) / installation qualification (IQ) / operational qualification (OQ). All system meet the requirements of FDA cGMP、EU GMP、WHO GMP and SFDA GMP.



分配模块
Distribution skid



用点管网系统
Use-point distribution system



CIP/SIP SYSTEM

CIP/SIP系统



- 设备介绍

炬创 CIP/SIP 系统遵循国际最新标准，符合制药行业法律法规要求，根据用户实际需求进行设计、制作、测试，使被清洗的工艺系统满足清洗验证和消毒验证需求。

为制药企业配液系统提供全自动清洗方案，产品分为移动式CIP小车、单罐CIP工作站、双罐CIP工作站和多罐CIP工作站等多种形式，CIP站不仅可以完成对清洗目标的清洗，还可以完成设备本身的自清洗和灭菌。系统采用3D模块化设计，外型紧凑、美观、大方。系统所需的罐、泵、换热器、过滤器、阀门、管道、仪表等主材均选用国际、国内优秀品牌，在基础上保证系统整体质量。设备控制系统硬件选择基于目前世界上广泛应用的标准模块，其中PLC选择西门子300系列，HMI选择MP277系列的触摸屏。程序的设计、检查和构成符合GAMP5的V-模型，软件模型适用于所有的S7 PLC系统。程序设计参照了GAMP5进行了优化设计，提高了程序的稳定性，并且有相关的文件进行支持，确保系统的可追溯性。系统可实现生产、清洗和灭菌的全自动控制。为考查配液系统在未来可能发生的种种情况下能否稳定地生产出符合质量需求的产品，会对系统进行验证，主要活动和测试包括：风险评估(RA)/设计确认(DQ)/安装确认(IQ)/运行确认(OQ)。

- EQUIPMENT DESCRIPTION

Juchuang CIP/SIP system is line with latest international standards, meet the requirements of pharmaceutical industry laws and regulations. The design, manufacture, test are all in conjunction with user requirements and meet the requirements of clean sterilization validation.

Juchuang provide fully automatic clean proposal. The product is divided into mobile CIP skid and, single tank CIP skid, double tanks CIP skid, multi-tank CIP skid and other models. CIP skid can not only clean the target vessel but also realize self-clean and sterilization. Using 3D modular design, compact, beautiful and generous. The pump, heat exchanger, valves, pipeline materials required by equipment are used for outstanding international brands, to ensure the quality of the system. The selection of control system hardware is based on the standard module widely used in world. For PLC we use SIEMENS 300 series, MP277 series of touch screen for HMI. The program design, check and constitute are in conjunction with V- GAMP5 model, the software model is applicable to all the PLC S7 system. The design of program refers to the GAMP5 to optimize the design, improving the stability of the program, and there are relevant documents to support, to ensure the traceability of the system. The system can realize automatic production, clean and sterilization. In order to check whether the purified water system can produced stably in accordance with the quality requirements in a variety of situations that may occur in the future, Juchuang verify and test the system involving: risk assessment (RA)/design qualification (DQ)/installation qualification (IQ)/ operational qualification (OQ).

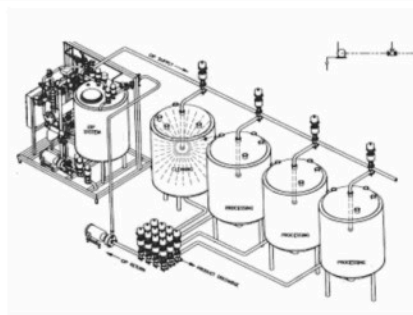
- 特点

- 清洗效果可重复得到验证；
- 节约操作时间、提高效率；
- 节省劳动力，安全可靠；
- 节省制药用水；
- 模块化生产，可实现FAT；
- 环保节能，便于安装和操作

- FEATURES

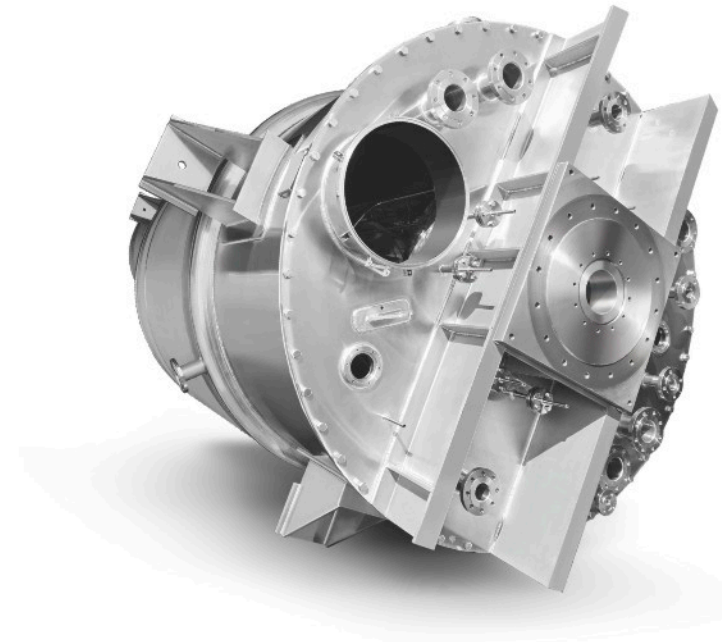
- The clean effect is reproducibility and can be validated.
- Saving operation time and improve efficiency.
- Labor saving, safety and reliability.
- Saving water during production.
- Modular manufacturing and FAT.
- Environmental protection and energy saving, easy for installation and operation.

CIP清洗工作站模块化设计
CIP cleaning work station
modularized design



TERNARY PRECURSOR REACTOR

三元前驱体反应釜



- 锂电新能源应用：专业制造三元前驱体、磷酸铁、碳酸锂、氢氧化锂、氯化锂、四氧化三钴废水、磷酸铁锂废水(磷酸一铵及硫酸铵分盐)、电池回收/资源再生(硫酸镍/钴/锰、硫酸钠蒸发结晶)、电解液、半导体、液晶材料、荧光材料、电子化学品等多种行业高效新型流体搅拌合成设备。

- 三元前驱体反应釜、磷酸铁合成釜、陈化釜、溶解釜、金属液配制罐、浆料中转罐、格氏反应釜、结晶釜、低温釜等非标准罐类设备。

- Application of lithium new energy: specialize in manufacturing new high efficiency liquid mixing and synthesis equipment for ternary precursor, iron phosphate, lithium carbonate, lithium hydrate, lithium chloride, cobalt oxide waste water, lithium iron phosphate waste water (monoammonium phosphate and ammonium sulfate salts), battery recycling/resource regeneration (nickel sulfate, cobaltous sulfate, manganese sulfate and sodium sulfate evaporative crystallization), electrolyte, semiconductor, liquid crystal materials, fluorescent material, electronic chemicals and other industries.

- Ternary precursor reaction kettle, iron phosphate synthesis kettle, aging kettle, dissolution kettle, metal liquid preparation tank, slurry transfer tank, GROUT reaction kettle, crystallization kettle, low-temperature kettle and other non-standard tank equipment.

1 磷酸铁
Iron phosphate

4 电池级四氧化三钴
Battery grade cobalt tetroxide

2 NCM全系列三元前驱体
NCM full series of ternary precursor

5 硫酸钠蒸发结晶
Evaporation & crystallization of sodium sulfate

3 电池级硫酸镍/钴/锰
Battery grade nickel sulfate, cobalt, manganese

6 电解液
Electrolyte



CG SERIES STORAGE TANK

CG 型系列贮罐

- 用途

本厂生产的CG型贮罐，设计合理工艺先进、自动控制，符合化工压力容器认证要求。罐体采用立式或卧式双层结构，并在夹层内缠绕螺旋带加热，并充填保温材料。内胆抛光至Ra0.45μm外部采用镜面板或磨砂板保温，顶部开设进水口、回流口、消毒口、清洗口、入口并安装0.45μm空气呼吸器。备有控制柜，检测物料温度并显示、恒温控制、液位数显、并提供上下限报警等功能。

产品规格：1m³、2m³、3m³、4m³、5m³、6m³、8m³、10m³以上。

- USAGE

With reasonable design, advanced technology and automatic control, the CG model storage tank produced by our factory conforms to the certification requirements of chemical pressure vessels. The tank body adopts vertical or horizontal double-layer structure, and is provided with spiral wound jacket with heating function, and is filled with heat preservation material. The internal bladder is polished to Ra0.45μm. The external part adopts mirror plate or sand grinding plate for heat preservation. The water inlet, reflux vent, sterilization vent, cleaning vent and manhole are provided at the top and the air respirator with 0.45μm is installed. It is equipped with control cabinet, which can realize material temperature detection, display, constant temperature control and digital display of liquid level, and provide such functions as upper and lower limits warning etc.

Tank specification: 1m³、2m³、3m³、4m³、5m³、6m³、8m³、10m³ or above.



PIPE HEAT EXCHANGER

管壳式换热器

- 概述

- 本厂可设计制造各种形式的管壳式换热器，传热面积1~1000m²，材质有碳钢、不锈钢、钛材S31803/2205、904L、317L及其复合材料。
- 另可根据客户要求定制。

- SUMMARY

- Our factory design and fabricate all kinds of tube-shell heat exchangers with heat area 1~1000m², which are made of carbon steel, stainless steel, titanium S31803/2205, 904L, 317L and their composite materials.
- Otherwise, client can have some special structure equipments made to order.



JACKET KETTLE

夹层锅系列



气动开盖可倾式夹层锅
Pneumatic flip-open cover tilting jacketed boiler
肉制品工程 Meat products project



骨头提取工程 Bone extraction project

- 概述

可根据用户需求提供用于食品和饮料生产加工过程中的设备和装置。

各种夹层锅是食品生产企业、大型餐饮企业和食堂的重要设备。由锅体、支架、涡轮、蜗杆等部件组成，锅体可180°转动。主要用于制药、食品、化工、轻工等行业对料液的煎煮和浓缩，该设备与料液接触部分为SUS304不锈钢，具有较好的耐腐蚀性能，经久耐用。可根据用户需求增加搅拌装置等。

- SUMMARY

Equipment and devices for food and beverage production and processing can be provided according to user needs.

Various jacketed kettles are important equipment for food production enterprises, large catering enterprises and canteens. It is composed of kettle body, bracket, turbine, worm and other parts, and the kettle body can be rotated for 180°. It is mainly used for decoction and concentration of liquids in such industries as medicine, food, chemical industry, light industry, etc. The part of the equipment that contacts the liquid is made of SUS304 stainless steel, which has good corrosion resistance and durability. Mixing devices can be added according to user needs.



夹层锅
Soup cooking boiler



熬汤锅骨头提取工程
Soup cooking boiler



刮壁式溶糖锅
Sugar melting boiler

SQUARE HIGH-SHEAR EMULSIFYING TANK

方形高剪切乳化罐

本设备采用底部叶轮高速转动，使物料在搅拌、挤压和剪切等物理作用下快速高效地混合，特别适合于对糖类、淀粉类、奶粉类、蛋粉类产品 和乳化剂、稳定剂、增稠剂的混合，通常在配方奶粉、酸奶、各种饮料、冰淇淋、蛋卷和华夫饼干的配料流程中使用。在结构设计上，我们采用R圆弧过渡，保证卫生无死角；而且在底部搅拌的密封结构上不断进行技术改造，最大限度地延长了机械密封和轴承的使用寿命，同时为客户节省了一定的使用成本。

This equipment is to blend the materials efficiently under mixing, pressing and cutting by the high-speed rotation of the impeller in the bottom, which is especially applicable for the mixture of sugar, starch, milk powder, egg powder products with the emulsifying agent, stabilizing agent and thickening agent, usually used in the mixing flow of formula milk powder, acidophilus milk, various drinks, ice cream, egg roll and waffles. We have adopted R-arc transition regarding the structural design to guarantee there is no dead corner to influence the sanitation; furthermore, the technical innovation has been carried out on the sealing structure for the mixing at the bottom to prolong the service life of the mechanic seal and bearing to the largest extent, and it has also saved the service cost for the clients.



MILK COOLING VAT

牛奶制冷罐



- FW系列卧式直冷奶罐

直冷式奶罐主要用于冷却、贮存鲜奶，也可冷却，贮存其他液料物体。我公司借鉴吸收国外先进技术设计制造的直冷式奶罐，采用了进口压缩机及安全保护系统、微电脑控制，进口聚氨酯整体发泡，蜂窝板蒸发器，等先进技术和装备，是牧场、奶站、乳品厂、食品厂、饮料厂及制药行业最理想的冷却、贮存设备。

- FW SERIES HORIZONTAL MILK COOLING TANK

Vertical cooling milk pot is mainly used in cooling to storage sweat milk or other liquid. It absorbs international advanced technology, adopts importing compress machine and safety and protection system, micro computer monitor, imported advanced technique and equipment such as polyurethane bubbling, honeycomb board evaporator. So it is the ideal cooling and storage equipment for pasture, milk factory, food factory, and beverage factory and pharmacy industry.



LARGE OUTDOOR STORAGE TANK SERIES

大型室外储罐系列



- 罐体配置

- T型清洗器
- 透气罩
- 取样阀
- 人孔
- 侧搅拌器
- 夹套(根据客户要求配置)
- 温度计(根据客户要求配置)
- 压力传感器(根据客户要求配置)
- 温度变送器(根据客户要求配置)
- 爬梯及平台

- CONFIGURATION OF TANK

- T-type cleaner
- Breathing cover
- Sampling valve
- Manhole
- Side blender
- Jacket
(According to customer requirements)
- Thermometer
(According to customer requirements)
- Pressure sensor
(According to customer requirements)
- Temperature converter
(According to customer requirements)
- Ladder and platform

- 使用范围

大中型乳品加工企业常用的大型室外储奶设备。也可用于果汁、医药化工等行业。

- 结构特征

- 采用内筒体加外包的结构，中间填充保温材料。
- 附加米勒板夹套冷却设计，更能有利于乳品保鲜保质。
- 采用了独特的门洞设计，极具人性化，可操作性强。
- 筒体内壁过渡段采用圆弧过渡，保证卫生无死角。

- APPLICABLE RANGE

Common large outdoor dairy storage equipment in large and medium dairy processing enterprises. In industries such as fruit juice and pharmacy etc.

- STRUCTURE CHARACTERISTICS

- Adopt structure of internal tank and external package, with heat preservation materials inside
- Miller board jacket cooling design for keeping freshness and quality of dairy products.
- Humanized design of door hole and easy to operate.
- Transition area of interior wall on tank adopts arc for transition to ensure no dead corner of sanitation.





NON-STANDARD CUSTOMIZED TANKS FOR PRE-TREATMENT, DISPENSING, ETC.

预处理配料等非标定制罐

SUMMARY

According to user needs, non-standard tanks with different diameters, heights and cooling methods can be designed, including reactors, towers, heat exchangers, etc.

The chemical equipment includes:

- Reaction equipment: such as reactors, which are used to carry out chemical reactions;
- Heat exchange equipment: such as heat exchangers, which can achieve heat exchange to control the reaction temperature or to heat and cool the material;
- Separation equipment: such as centrifuges and filters, which are used to sort different components in the mixture;
- Storage equipment: such as tanks, which are used to store raw materials, intermediates and finished products;
- Conveying equipment: such as pumps, compressors and conveyors, which are used to convey materials.

FEATURES

- It needs to withstand high temperature, high pressure, corrosion and other severe service conditions;
- Extremely high requirements for tightness and safety;
- Various materials, please choose the suitable material according to different media and process conditions.

概述

可根据用户需求设计不同的直径、高度及冷却方式不同的非标罐，包括反应釜、塔、换热器等。

化工设备有：

- 反应设备：如反应釜，用于进行化学反应；
- 换热设备：如换热器，实现热量交换，以控制反应温度或对物料进行加热、冷却；
- 分离设备：如离心机、过滤器，用于分类混合物中的不同成分；
- 储存设备：如储罐、储槽，用于储存原料、中间产物和成品；
- 输送设备：如泵、压缩机、输送机，负责物料的输送。

特点

- 需承受高温、高压、腐蚀等恶劣工况；
- 对密封性和安全性要求极高；
- 材质多样，根据不同介质和工艺条件选择合适的材料。



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广西平果凯特生物化工有限公司
湖南格林蓝天环保设备制造有限公司
广东家宝城市管理科技有限公司
南京市住宅建设总公司
龙门雅芳药业有限公司
湖南农大动物药业有限公司
湖南诺泽生物科技有限公司
湖北兴华制药有限公司

湖南玉新药业股份有限公司
深圳翰宇药业股份有限公司
深圳新宝环保能源科技有限公司
四川天联药业有限公司
湖南伟图科技有限公司
通化惠康生物科技有限公司
长沙盛高机电设备有限公司
云南灯盏花药业有限公司
长沙莱瑞自动化设备科技有限公司
山西瑞象生物药业有限公司
伟达（湖南）科技有限公司
湖南牛顺科技有限公司
武汉普非希诺科技有限公司
北京汉德源科技有限公司
甘肃欧诺流通设备工程有限公司
安徽成泰医药科技有限公司
楚天科技股份有限公司
湖南合利智能装备有限公司
四川华联制药有限公司
安顺百灵制药厂
路凯（湖南）科技有限公司
成都上行科技有限公司
长沙一科生物科技有限公司
北京勤诚盛达科学仪器有限公司
怀化正好制药有限公司
长沙艾迪生物科技有限公司
广东徐闻三和发展有限公司
安徽捷众生物化学有限公司
江门市光华生物科技有限公司
甘肃炬浩科技有限公司
湖南成大生物科技有限公司
上海惠同贸易有限公司
湖南先施制药有限公司
长沙康美隆科技有限公司
湖南特启环境科技有限公司
成都迪康药业有限公司
张家界长康制药有限责任公司
湖南益侨制药有限公司

国外

FACTORY(INYAUNG)KYAUK SE(缅甸)
IM MEDSTAR COMPANY SRL(摩尔多瓦)
JURABEK LABORATORIES LTD(乌兹别克)

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