



WWW.TFJX.COM

浙江天富科技有限公司

地址：温州市经济技术开发区滨海园区六道398号

电话：0577-86927666 85820669

邮编：325025

ZHEJIANG TIANFU TECHNOLOGY CO.,LTD

ADD: No. 398, Sixth Road, Binhai Park, Wenzhou Economic &
Technical Development Zone

TEL: 0577-86927666 85820669

P.C: 325025

HTTP://WWW.TFJX.COM

E-MAIL: TFJX@TFJX.COM

LEADING INDUSTRY TRANSFORMATION

引 领 行 业 变 革



引领行业变革

INDUSTRY TRANSFORMATION
LEADING

TIANFU TECHNOLOGY

配料系统整体解决方案提供商

- ◆ 国家高新技术企业
- ◆ 国家火炬计划重点新产品项目
- ◆ 科技部技术创新基金项目
- ◆ 浙江省重点新产品项目
- ◆ 浙江省专精特新中小企业
- ◆ National High-tech Enterprise
- ◆ National Torch Program and State's Key New Product Project
- ◆ New Technology Fund Support Project of Middle and Small size Enterprise by Ministry of Science and Technology
- ◆ Key New Product Project of Zhejiang Province
- ◆ Zhejiang Province Specialized, Refined, Unique and New Small and Medium sized Enterprises

天富，
中国乳化设备行业领军型企业
TIANFU,
Leading enterprise in China's emulsification
equipment industry

诚者物之终始 THE END OF THE TRUTH

诚者，自成也，而道自道也。诚者，物质之终始，无诚不物。
圣人之本。大哉乾元，万物资始，诚之源也。

Sincerity leads to self realization, and the Tao itself is the Tao.
Sincerity is the beginning of material things,
and there is no sincerity without substance.
The foundation of saints. Great is the Qianyuan,
the origin of all things and the source of sincerity.



ADDRESS

Of President

董事长致辞

我们将一如既往地遵照客户第一、质量至上的方针，始终坚持把高品质的原料、先进的设计、严格的制造标准及质量保证体系作为企业发展的根基。我们始终关注客户的需求以及对产品质量及可靠性愈来愈高的要求，秉承工匠精神，专注精工生产。以“共创价值，共享成果”的经营哲学，与客户共谋发展，共享行业发展红利。天富科技以“锐意创新，引领乳化装备行业变革”为企业使命，追求卓越，以创建具有世界影响力的中国乳化装备标杆品牌为企业愿景，不负时代，为中国乳化装备行业的发展贡献力量！

We will continue to adhere to the principle of customer first and quality first, always insisting on high-quality raw materials, advanced design, strict manufacturing standards, and quality assurance system as the foundation of enterprise development. We always pay attention to the needs of our customers and their increasingly high requirements for product quality and reliability, adhering to the spirit of craftsmanship and focusing on precision production. Adhering to the business philosophy of "co creating value and sharing achievements", we seek common development with customers and share the dividends of industry development. Tianfu Technology takes "innovation and leading the transformation of the emulsification equipment industry" as its corporate mission, pursues excellence, and aims to create a globally influential benchmark brand for Chinese emulsification equipment as its corporate vision. We live up to the times and contribute to the development of China's emulsification equipment industry!

天富科技 邵威国



ABOUT

Tianfu

关于天富

浙江天富科技有限公司成立于2001年，是一家集真空乳化配料成套设备的研发、制造、销售于一体的国家级高新技术企业、专精特新中小企业。主要产品有药用真空乳化配料系统、软胶囊化胶配料系统、日化真空乳化配料系统等，产品广泛应用于制药、生物、日化、食品等领域，为国内真空乳化领域龙头型企业。

公司坚持以科技为依托，以创新为动力，以卓越品质铸造天富品牌，持续提升核心竞争力。公司现为中国制药装备行业协会常务理事单位，机械行业“药用真空乳化机”行业标准起草单位和轻工业“真空乳化机”行业标准起草单位，国家“火炬计划项目”和科技部“创新基金项目”承担单位。

天富科技一总部 Tianfu Technology – Headquarters



智能制造4.0
Intelligent
manufacturing 4.0



颠覆血统的公司
Subversive
company



引领行业变革
Leading industry
transformation



ABOUT

Tianfu

关于天富

天富，打造中国乳化设备领军品牌

Tianfu, building a leading brand of emulsification equipment in China

Zhejiang Tianfu Technology Co., Ltd. was established in 2001. It is a national high-tech enterprise and a specialized and innovative small and medium-sized enterprise that integrates the research and development, manufacturing, and sales of complete sets of vacuum emulsification batching equipment. The main products include pharmaceutical vacuum emulsification ingredient system, soft capsule rubber ingredient system, daily chemical vacuum emulsification ingredient system, etc. The products are widely used in the fields of pharmaceuticals, biology, daily chemical, food, etc., making it a leading enterprise in the domestic vacuum emulsification field.

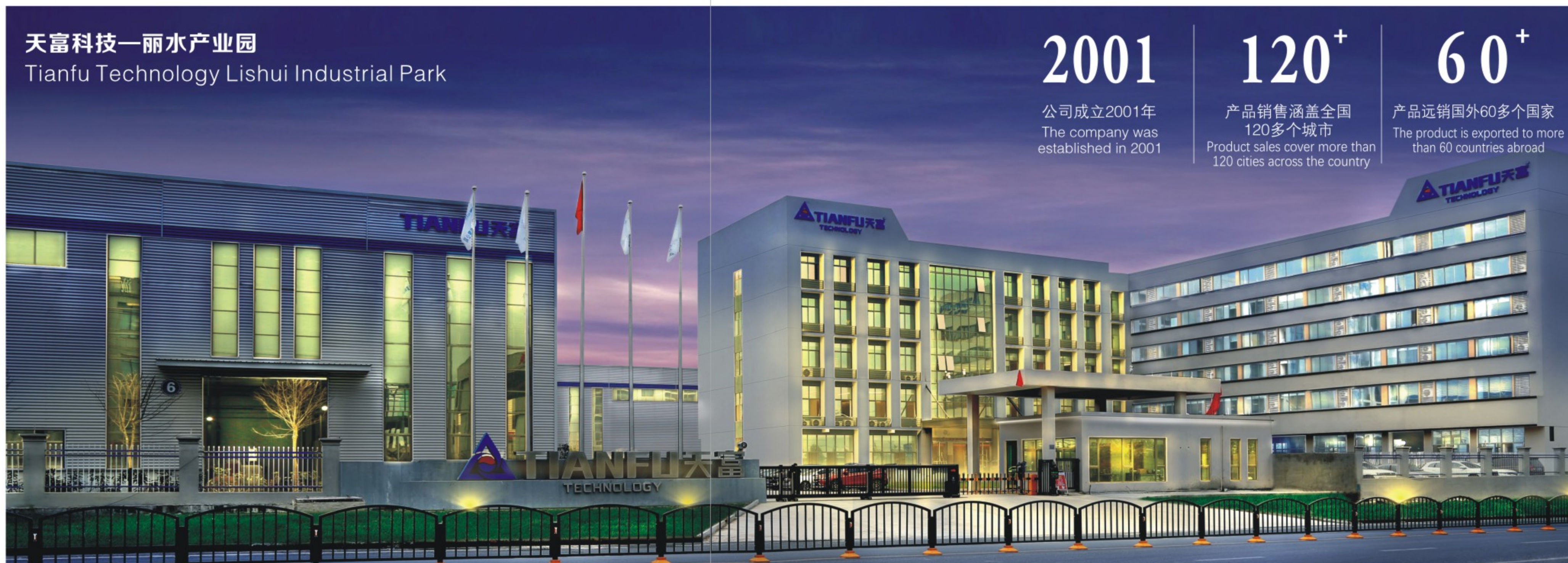


The company adheres to relying on technology, driven by innovation, and casting the Tianfu brand with excellent quality, continuously enhancing its core competitiveness. The company is currently an executive director unit of the China Pharmaceutical Equipment Industry Association, a drafting unit for the

"Pharmaceutical Vacuum Emulsifier" industry standard in the machinery industry, a drafting unit for the "Vacuum Emulsifier" industry standard in the light industry, and a undertaking unit for the national "Torch Plan Project" and the Ministry of Science and Technology's "Innovation Fund Project".

天富科技—丽水产业园

Tianfu Technology Lishui Industrial Park



2001

公司成立2001年
The company was established in 2001

120⁺

产品销售涵盖全国
120多个城市
Product sales cover more than
120 cities across the country

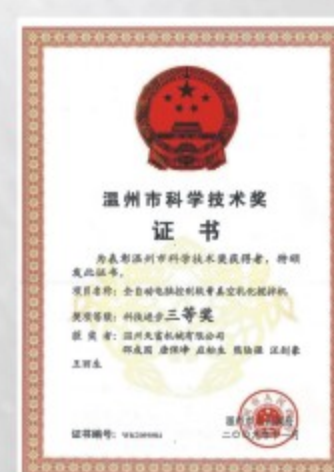
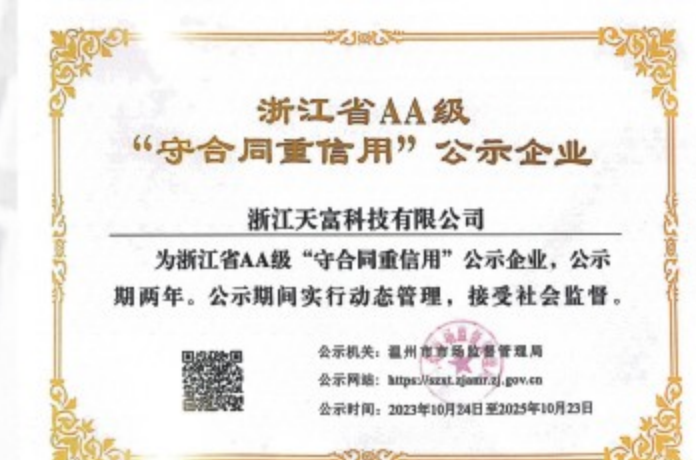
60⁺

产品远销国外60多个国家
The product is exported to more
than 60 countries abroad

CERTIFICATES

And Honors

证书及荣誉



企业愿景：追求卓越 创建具有世界影响力的中国乳化装备标杆品牌

企业使命：锐意创新 引领乳化装备行业变革

经营哲学：共创价值 共享成果

核心价值观：诚信、务实、高效、创新

源于天富领先一路

Leading the industry and creating the future

Corporate Vision: Pursuing Excellence and Creating a World Influential

Benchmark Brand for Chinese Emulsification Equipment

Corporate mission: To innovate and lead the transformation of the emulsification equipment industry

Business philosophy: co creating value and sharing achievements

Core Values: Integrity, Pragmatism, Efficiency, Innovation



R/D

Team

研发团队

10%，是天富科技每年投入的研发资本占总销售额的比例。别小看10%，它比三一重工这样的企业要高3-4%，比一般的企业要高8-9%，这说明，天富科技是一家为了好的产品愿意花钱的企业。于是，大家应该知道，天富科技是一家具有创新精神的公司。

10% is the proportion of annual R&D capital invested by Tianfu Technology to total sales. Don't underestimate 10%, it is 3-4% higher than companies like Sany Heavy Industry and 8-9% higher than ordinary companies. This indicates that Tianfu Technology is a company willing to spend money for good products. So, everyone should know that Tianfu Technology is a company with innovative spirit.



10%

10%每年投入的研发
资本占总销售额的比例
10%Proportion of R & D capital
invested in total sales every year

50%

50%技术研发人员比例
50% of technical R & D personnel

OFFICE

Environment

办公环境

以人为本，每一位员工的个人价值实现都是公司价值实现的一部分。天富将关爱员工作为企业的重要责任，充分鼓励员工发挥个人专长，帮助员工实现个人价值。多样化的培训，以及相对舒适的环境，提高员工的归属感和幸福感，让员工能够高效工作，快乐生活。

Putting people first, the personal value realization of each employee is a part of the company's value realization. Tianfu regards caring for employees as an important responsibility of the enterprise, fully encouraging employees to utilize their personal expertise and helping them realize their personal value. Diversified training and relatively comfortable environment enhance employees' sense of belonging and happiness, enabling them to work efficiently and have a happy life.



现代化的办公环境 营造和谐轻松的氛围

Modern office environment Create a
harmonious and relaxed atmosphere



公司在生产过程中，
严格按照ISO9001质量管理体系的要求进行管理，
通过提高工作质量保证产品的稳定性，
同时加强客户服务的管理，
多年来公司产品质量检测的合格率达到99%。
绝不让不合格的产品出厂，我们
相信这既是对客户的负责，
更是对我们自己负责。

精细化 规范化

Refinement Standardization

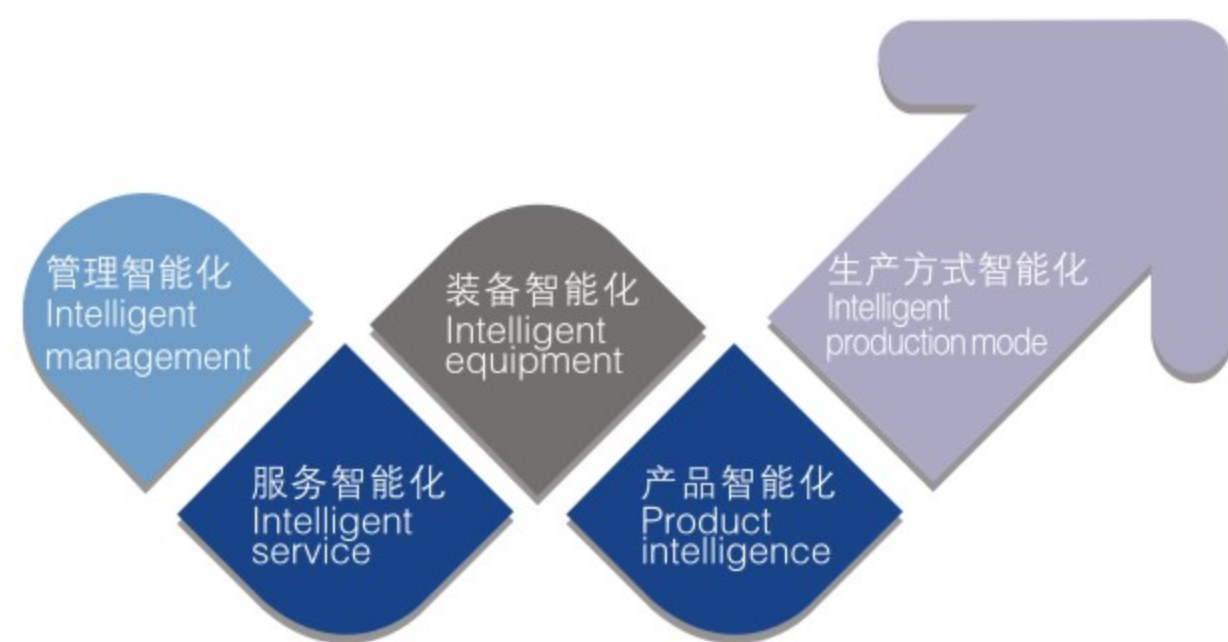
During the production process,
Manage in strict accordance with the requirements of ISO9001 quality management system,
By improving work quality and ensuring product stability,
At the same time, strengthen the management of customer service,
Over the years, the qualified rate of the company's product quality inspection has reached 99%.
We will never let unqualified products leave the factory
I believe this is both responsible to customers,
It is more responsible for ourselves.



INTELLIGENT

Manufacturing

智能制造



这是一次巨大的产业革命，错过了工业4.0也就错过了这个时代！谁最终赢得第四次工业革命主导权？第四次工业革命以2013年德国汉诺威为志，宣布这一轮工作革命以智能制造为核心。

This is a huge industrial revolution. If you miss industry 4.0, you will miss this era! Who finally won the dominance of the fourth industrial revolution? The fourth industrial revolution took Hanover, Germany, in 2013 as its ambition and announced that this round of work revolution took intelligent manufacturing as the core.



工业 4.0 将颠覆现有的生产和管理模式

Industry 4.0 It will subvert the existing production and management mode



自动化生产现场



质量控制



全自动包装流水线



链接物联网大数据

实时动态监控



LEADING

Industry Transformation

引领行业变革

天富科技 是一家具有颠覆血统的公司

Tianfu technology
It is a company with a subversive lineage

2005年以前，大家还不知道一家叫做天富科技的公司，
因为国内还没有一家能够生产喷射式乳化均质器的企业，
但是这一天在2005年8月发生了改变，——第一台中国产喷射式乳化均质器诞生

于是，大家都知道，天富科技是一家具有颠覆血统的公司。

Before 2005, no one knew about a company called Tianfu technology,
Because there is no domestic enterprise capable of producing jet type
emulsion homogenizers,
But that day changed in August 2005, when the first Chinese made jet
emulsifier homogenizer was born

So, everyone knows that Tianfu technology is a company
with a subversive lineage.

第1台国产

喷射式乳化均质器诞生!

The first domestically produced jet emulsifier
homogenizer is born!



PRODUCTION

Workshop

生产车间

卓越于芯 精致以形

Excellent in core and exquisite in shape



科学技术是第一生产力，科学技术也是企业的核心竞争力。不断加强核心技术的研发和创新，不断追求卓越，精益求精，以先进的生产设备，严格的质量管理，保证每一款产品的优良性能。

Science and technology is the primary productive force, and science and technology is also the core competitiveness of enterprises. Continuously strengthen the R & D and innovation of core technology, constantly pursue excellence and keep improving, and ensure the excellent performance of each product with advanced production equipment and strict quality management.



ENGINEERING

Case

工程案例

品质源于专业 细节成就精品

Quality comes from professionalism; Details create exquisite products

医药膏霜配料
Pharmaceutical cream ingredients



公司提供一流的专业工程安装经验和管理经验，本着精益求精的工作态度，为用户提供良好的售后服务，竭诚满足用户的需求。专业人员是良好服务的基础，我们的专业人员具备设备使用及维护的实际经验及系统培训，真正掌握了专业知识和现场处理方法。

The company provides first-class professional engineering installation experience and management experience, with a work attitude of striving for excellence, to provide customers with good after-sales service and wholeheartedly meet their needs. Professional personnel are the foundation of good service. Our professionals have practical experience in equipment use and maintenance, as well as systematic training, truly mastering professional knowledge and on-site handling methods.



ENGINEERING

Case

工程案例

精益求精 匠心制造

Striving for excellence and craftsmanship in manufacturing

■ 日化生产线系列

Daily chemical production line series



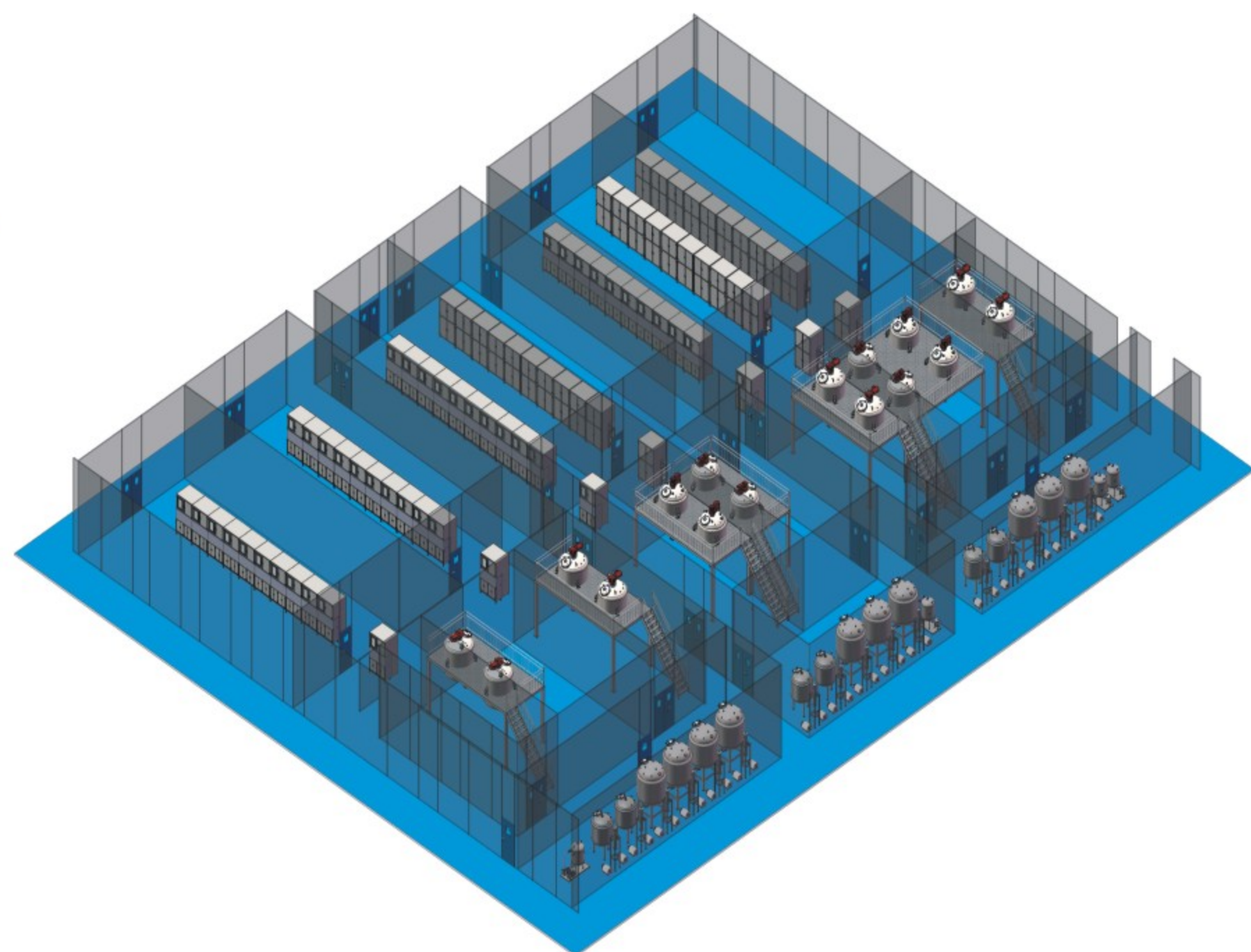
ENGINEERING

Case

工程案例

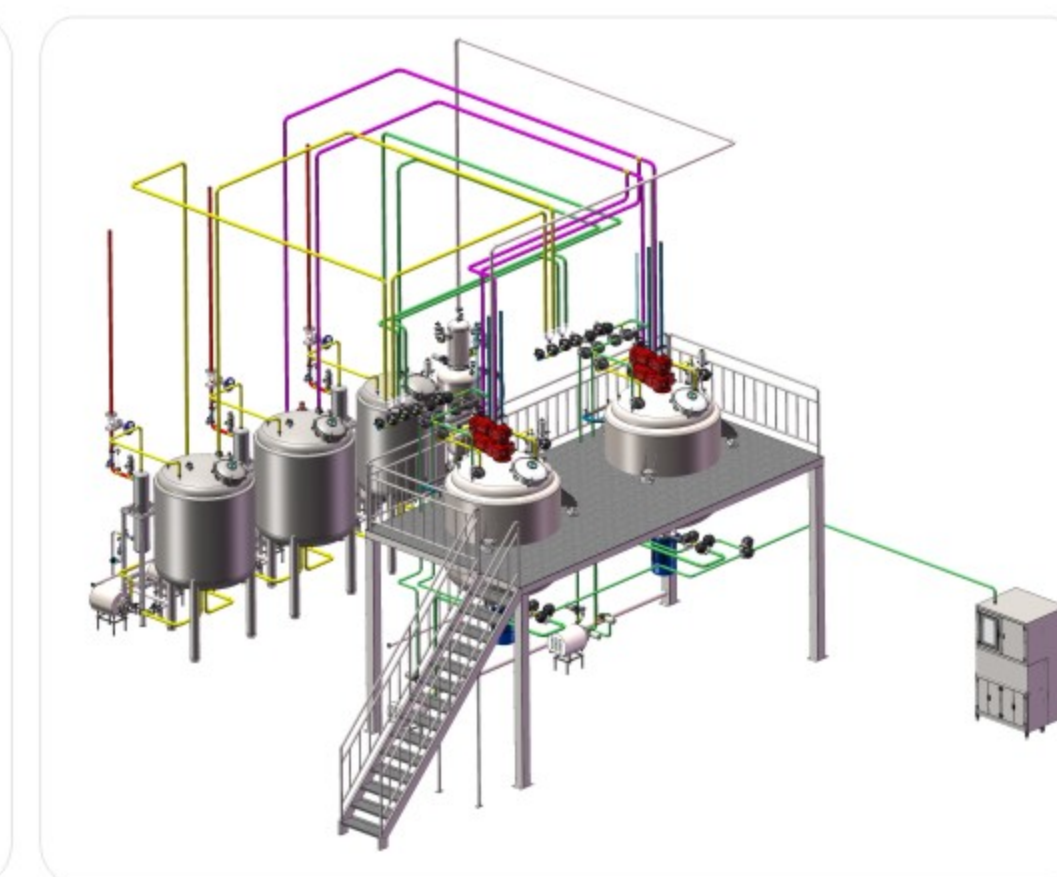
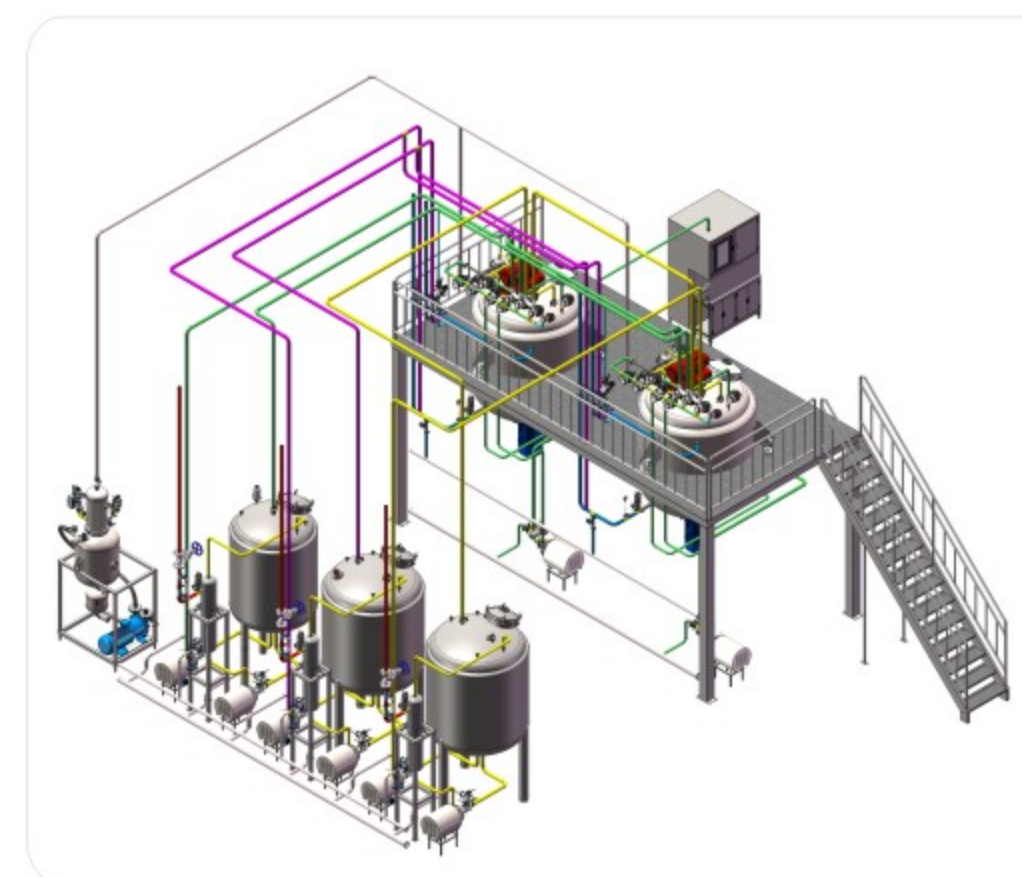
提供从工艺设计到设备安装调试整体工程解决方案！

Provide a comprehensive engineering solution from process design to equipment installation and debugging!



软胶囊化胶配料系统
Soft Capsule Adhesive Ingredient System

全自动在线输送配料化胶系统
Fully automatic online conveying and batching glue system

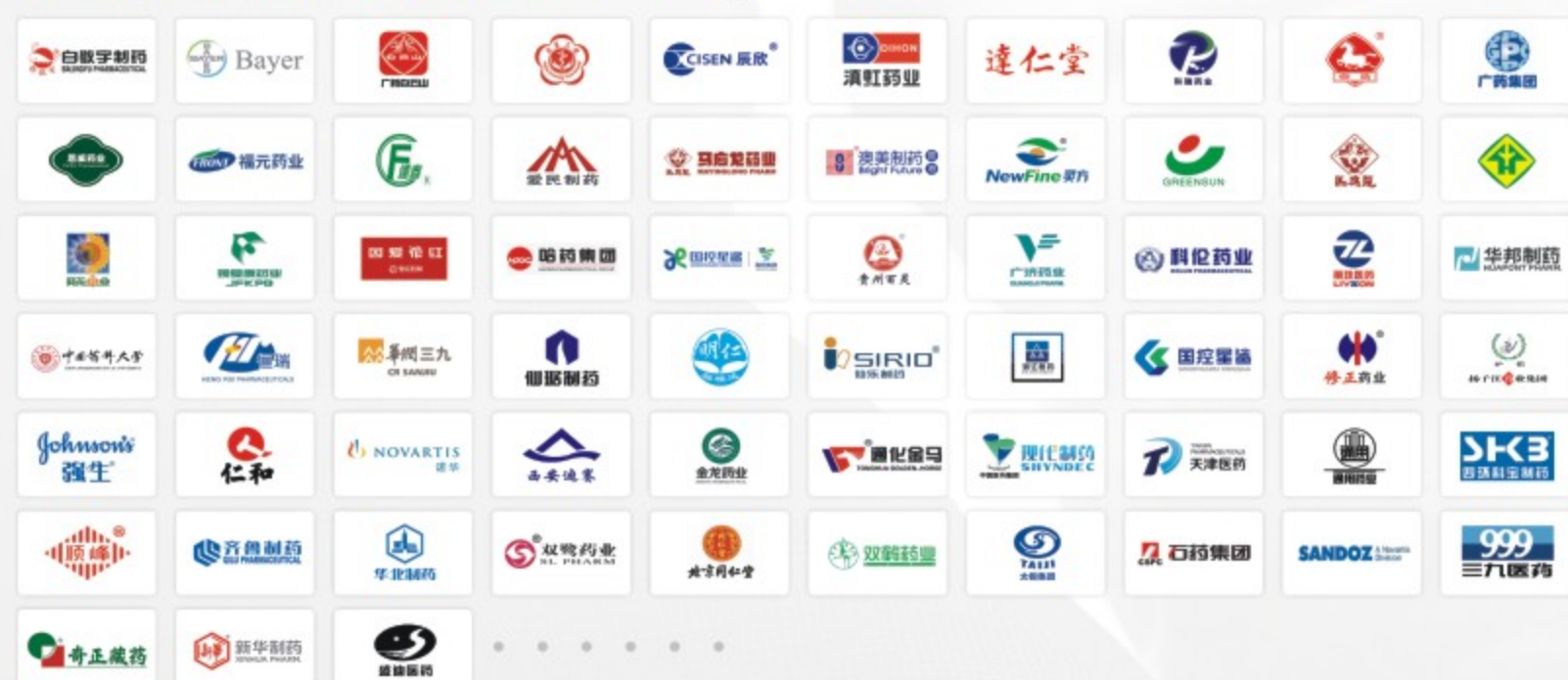


COOPERATIVE

Partner

合作伙伴

医药行业 Pharmaceutical industry



日化行业 Daily chemical industry



食品行业 Food industry



PRODUCT

Catalog

产品目录

一 乳化机成套设备 EMULSIFIER COMPLETE EQUIPMENT

- 33 膏霜真空乳化机
Cream Vacuum Emulsifier
- 37 TFZRJ-50L膏霜真空乳化设备
TFZRJ-50L cream vacuum emulsification equipment
- 39 TFZRJ膏霜真空乳化成套设备
Tfzrj Cream Vacuum Emulsification Complete Equipment
- 41 栓剂真空乳化成套设备
Complete Set Of Vacuum Emulsification Equipment For Supp Ositories
- 43 TFZRJ无菌真空乳化成套设备（防爆型）
Tfzrj Aseptic Vacuum Emulsification Complete Equipment (explosion Proof Type)
- 45 乳化成套系统（升降式预混罐）
Emulsification Complete System (lift Type Premix Tank)
- 47 TFZRJ-Pro 系列乳化机
Tfzrj Pro Series Emulsifier
- 49 中试真空乳化机组
Pilot Vacuum Emulsification Unit
- 51 中试香水配料设备
Pilot Scale Perfume Ingredient Equipment

- 52 均质器展示
Display

二 软胶囊化胶配料系统 SOFT CAPSULE ADHESIVE INGREDIENT SYSTEM

- 53 软胶囊化胶配料系统
Soft Capsule Adhesive Ingredient System
- 57 双腔转笼清洗机
Double Chamber Cage Cleaning Machine

三 无菌配料系统 ASEPTIC INGREDIENT SYSTEM

- 59 无菌微球配料系统（防爆型）
Aseptic microsphere dispensing system (explosion-proof type)
- 61 自动化配液模块
Automated liquid dispensing module

四 牙膏配料系统 TOOTHPASTE INGREDIENT SYSTEM

- 63 牙膏制膏成套设备
Complete set of equipment for making toothpaste paste

五 液洗配料系统 LIQUID WASHING INGREDIENT SYSTEM

- 67 高效香波生产线
Efficient shampoo production line

六 CIP清洗系统 CIP CLEANING SYSTEM

- 69 CIP清洗系统
CIP cleaning system

七 不锈钢容器系列 STAINLESS STEEL CONTAINER SERIES INDUSTRY

- 71 不锈钢容器系列
Stainless steel container series

EMULSIFICATION

Cream vacuum emulsifier

膏霜真空乳化机

本机系由巨大型高粘度物之混合均匀用的叶片搅拌器与微小型高速搅拌均匀用的强剪断式均质搅拌器组合成为一体。

搅拌器叶片四周附有刮板，利用该刮板可有效去除附着在锅壁上的物料，使物料搅拌更充分。

被刮取的处理液经过两套逆向搅拌进行的剪断、压缩、折叠等作用，受其搅拌、混合而向下流往容器下方的同质搅拌器能予作用的位置。

高剪切分散乳化就是高效、快速、均匀地将一个相或多个相分布到另一个连续相中，而在通常情况下各个相是互不相溶的。由于转子高速旋转所产生的高切线速度和高频机械效应带来的强劲动能，使物料在定、转子狭窄的间隙中受到强烈的机械及液力剪切、离心挤压、液层摩擦、撞击撕裂和湍流等综合作用，从而使不相溶的固相、液相、气相在相应成熟工艺和适量添加剂的共同作用下，瞬间均匀精细的分散乳化，经过高频的循环往复，最终得到稳定的高品质产品。

诚如上述，由均质搅拌器与叶片搅拌器各自具有的特徵相辅相成，倍增其效果，能够有效处理高粒度物的乳化与混合。



1000L双缸升降乳化机
1000L double-cylinder lifting emulsifier



The machine is composed of large vane mixer used for mixing materials of high viscosity and small strong cutting type homogenizing mixer for high speed mixing.

Scrapers are provided around vanes of the mixer. The materials sticking to boiler wall can be effectively eliminated by the scrapers so as to realize sufficient blending of materials. Under the cutting, pressing and folding functions by two sets of reverse mixers, the scraped treatment fluids are mixed and will flow downwards to the position below the vessel where the homogenizing mixer can carry out pretreatment.

High-shear dispersion and emulsification is to distribute one phase or more to another continuous phase in a highly-efficient, rapid and even way. Generally, the phases are mutually indissoluble.

The materials will be processed in the narrow space between stator and rotor by high tangential speed and strong energy of motion respectively produced by fast-turning rotor and high frequency mechanical effect. By the operation of intensive shearing, centrifugal extruding, liquid layer attrition, impacting and breaking, and even turbulence, the materials of mutually indissoluble solid phase, liquid phase and gas phase will be refined, dispersed and emulsified instantly with the help of mature technology and proper amount of additive. After high frequency reciprocating circulation, products of stable quality are achieved.

As shown in the above, the homogenizing mixer and vane mixer complement each other with their respective features for effectively realizing emulsification and mixing of materials of high granularity.

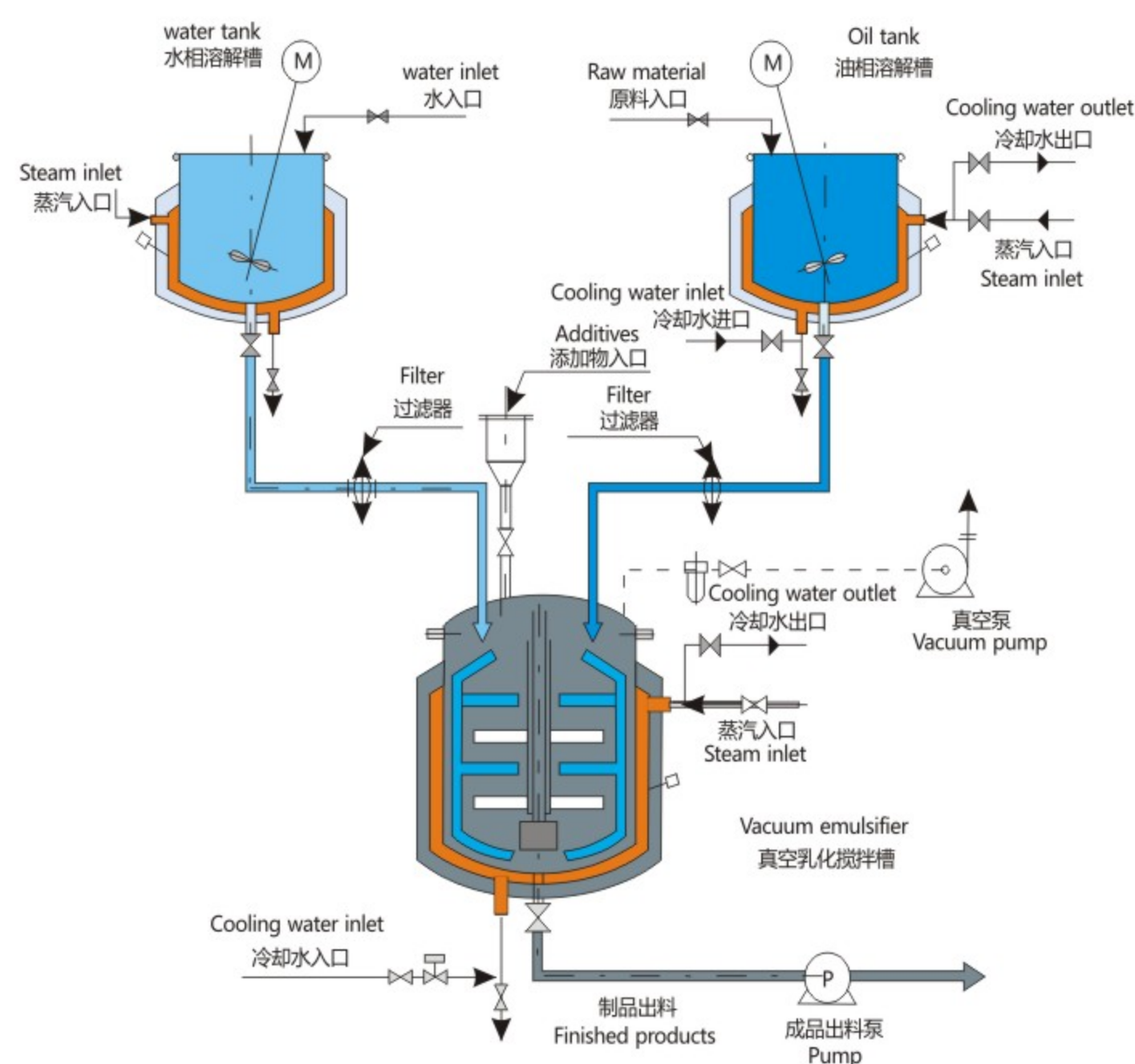
EMULSIFICATION

Cream vacuum emulsifier

膏霜真空乳化机

为您提供本地化解决方案

- 本地支持能力能覆盖乳化范围内交钥匙工程项目、服务以及综合工艺技术
- 工程服务
- 交钥匙项目
- 质量和安全保证
- 费用预算以及进度控制
- 人力资源控制
- 项目工程能力
- 基础设计和详细设计
- 工艺流程和工艺整合
- 机械和电气工程能力
- 采购
- 现场项目实施
- 制造
- 罐
- 模块系统
- 阀阵
- 卫生级流体配件
- 阀门
- 各类管道配件
- 自控系统
- 电气设计
- 控制柜制作



Provide you with localization solutions

- Local support capacity can cover turnkey projects, services and integrated process technology within the scope of emulsification
- Engineering services
- Turnkey project
- Quality and safety assurance
- Cost budget and schedule control
- Human resource control
- Project engineering capability
- Basic design and detailed design
- Process flow and process integration
- Mechanical and electrical engineering capability
- purchase
- On site Project Implementation
- manufacture
- pot
- Modular system
- Valve array
- Sanitary fluid fittings
- valve
- Various pipe fittings
- Automatic control system
- electrical design
- Fabrication of control cabinet

EMULSIFICATION

TFZRJ-50L cream vacuum emulsification equipment

TFZRJ-50L膏霜真空乳化设备

产品特点 Characteristic

- | | |
|-------------|--|
| 1、本机组具有操作简便 | 1. The machine has easy operation |
| 2、性能稳定→均质性好 | 2. steady capability, |
| 3、生产效率高 | 3. good homogeneity |
| 4、清洗方便 | 4. high efficiency |
| 5、结构合理 | 5. reasonable structure |
| 6、占地面积少 | 6. small volume |
| 7、自动化程度高等特点 | 7. high automation level easily clean. |

优点

本机组采用上部同轴三重搅拌器，液压升降开盖，快速均质搅拌器转速：0-3500r/min(变频调速)、慢速刮壁搅拌器转速：0-40r/min(变频调速)、均质器采用高剪切喷射式乳化搅拌机，慢速刮壁搅拌自动紧贴锅底及锅壁。采用真空吸料，特别对粉体物料利用真空吸入避免粉尘飞扬。整个工序在真空条件下进行，防止物料在高速搅拌后产生气泡，能达到卫生无菌要求。本系统配有CIP清洗装置、容器与物料接触部分采用SUS316L材料制造、内表面镜面抛光300EMSH(卫生级)为了确保控制部分的稳定、按钮采用日本富士公司产品、变频器采用日本松下电工、电器控制部分采用西门子公司产品。本机组完全符合GMP要求制造，是目前国内最先进、最理想的膏、霜生产设备。



50L 按钮控制真空乳化搅拌机
50L pushbutton controlled vacuum emulsifying blender



液压升降真空乳化机PLC
Hydraulic lifting vacuum emulsifier PLC



Advantage

The machine has triple blender, hydraulic lift cover, high-speed homogeneity blender (Speed is 0-3500r/min, frequency speed regulation) and low-speed scraper blender (Speed is 0-40r/min, frequency speed regulation). Fast-cutting vortex emulsification blender is used in the homogeneity part, which can scrape in a low speed and automatically blend and snuggle up to the bottom and wall of boiler. The machine draws powder material by the way of vacuum in order to prevent the powder flying. The whole working procedure is operated in the condition of vacuum in order to prevent the material coming into being bubble

after high-speed blending and reach the request of sanitation and asepsis. CIP cleaning system is equipped in this system. The contact part of vessel and material is made from SUS316L material. Mirror finish of the inside surface is 300EMSH. In order to ensure the stabilization of the control, the vacuum pump is the products of Germany Siemens Company, the button is produced by Japan Fuji Company, the transducer is the product of Japan Matsushita Electric Industries and the electro-control part is the product of Siemens Company. The machine is made completely according to the GMP request, which is the most advanced and most perfect cream production equipment.

EMULSIFICATION

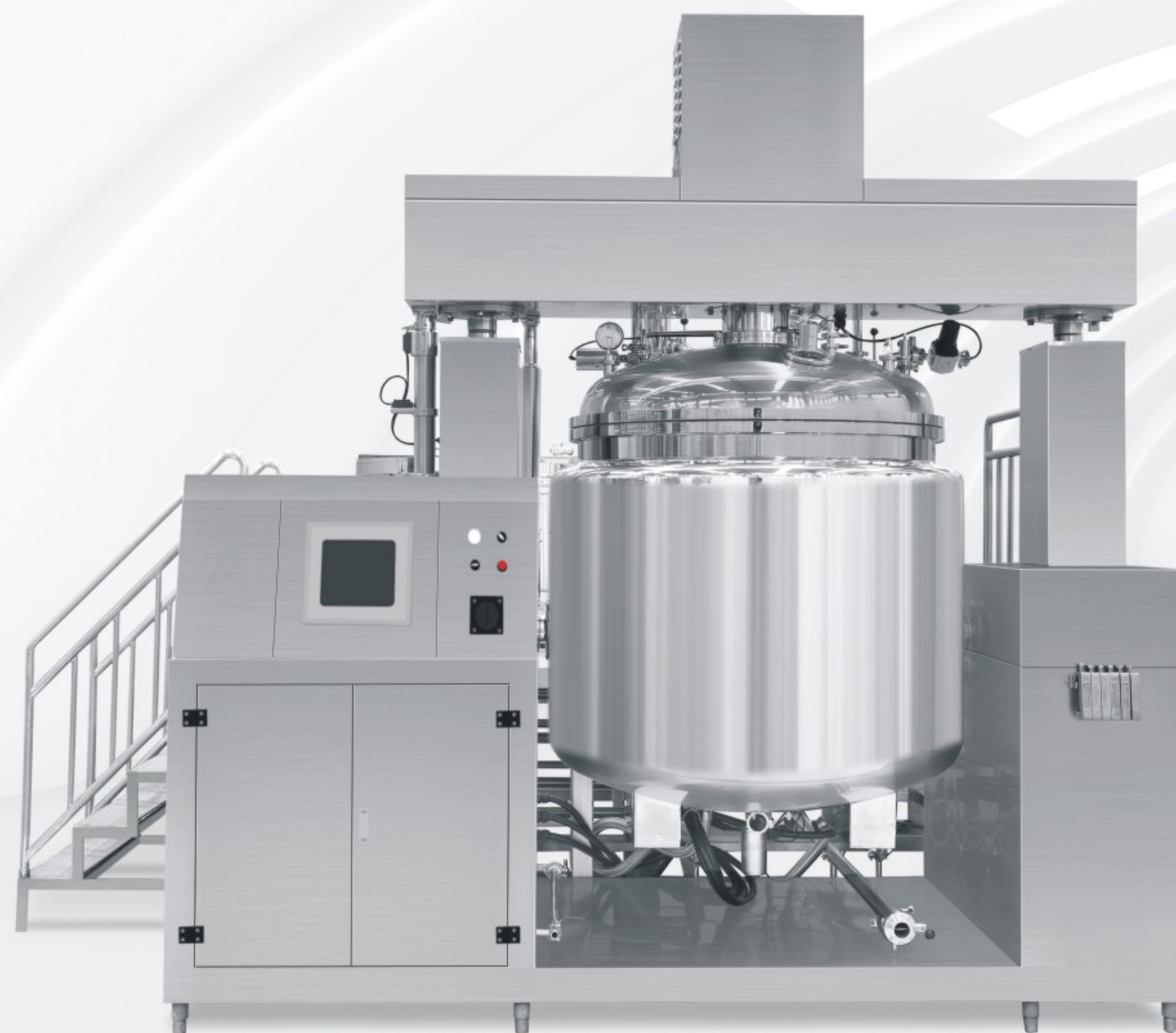
TFZRJ cream vacuum emulsification complete equipment

TFZRJ膏霜真空乳化成套设备

产品特点 Characteristic

- 1、超高粘物（50,000C.P.S以上），天富推荐采用对应的高黏度乳化均质器。
- 2、原料可利用机器直接吸入槽内。
- 3、本机自带真空、液压、加热、冷却等功能。
- 4、乳化、搅拌、分散等可於短时间内完成。
- 5、慢速桨式搅拌及高速均质系统均有变频控制。
- 6、用户可选按钮控制或PLC触控屏系统。
- 7、与物件接触部分的材质为不锈钢SS316L，设备整体符合GMP规范。
- 8、搅拌在真空状态下的运行，可有效保证乳化效果。
- 9、设备配备CIP清洗装置，可方便利用用户自有的CIP清洗系统，对该设备进行清洁工作。

- 1、For materials of super high viscosity (above 50,000C.P.S),Tianfu recommends the use of corresponding high viscosityemulsifying homogenizer.
- 2、Raw materials can be directly sucked into the groove by the machine.
- 3、The machine is provided with vacuum, hydraulic pressure, heating, cooling and other functions.
- 4、Emulsifying, blending and dispersion can be completed within a short period of time.
- 5、Slow speed blade type blending and high speed homogenizing systems are provided with frequency conversion control.
- 6、Users can select pushbutton control or PLC touch screen system.
- 7、Parts that contact materials are made of stainless steel SS316L. The whole equipment conforms to GMP standard.
- 8、Blending is carried out under vacuum to effectively ensure the emulsifying effect.
- 9、The equipment is provided with the CIP cleaning device,which can conveniently use the self-contained CIP cleaning system of users to clean the equipment.



主要技术参数 Main technique parameter

型号 Model	有效容量 EFFECTIVE CAPACITY	乳化马达(EMULSIFY)		搅拌马达(AGITATOR)		外型尺寸(OUTSIDE DIMENSION)				总功率 Total power (kw)
		KW	r/min	KW	r/min	长 (LENGTH)	宽 (WIDTH)	高 (HEIGHT)	全高 (MAXH)	
TFZRJ-20	20	2.2	0-3500	0.37	0-40	1800	1600	1850	2700	5
TFZRJ-50	50	3	0-3500	0.75	0-40	2700	2000	2015	2700	7
TFZRJ-100	100	3	0-3500	1.5	0-40	2920	2120	2200	3000	10
TFZRJ-150	150	4	0-3500	1.5	0-40	3110	2120	2200	3100	11
TFZRJ-200	200	5.5	0-3500	1.5	0-40	3150	2200	2200	3100	12
TFZRJ-350	350	7.5	0-3500	2.2	0-40	3650	2650	2550	3600	17
TFZRJ-500	500	7.5	0-3500	2.2	0-40	3970	2800	2700	3950	19
TFZRJ-750	750	11	0-3500	4	0-40	3780	3200	3050	4380	24
TFZRJ-1000	1000	15	0-3500	4	0-40	3900	3400	3150	4550	29
TFZRJ-1500	1500	18.5	0-3500	7.5	0-40	4000	4100	3750	5650	42
TFZRJ-2000	2000	22	0-3500	7.5	0-40	4850	4300	3600	不带升降	46

EMULSIFICATION

Complete set of vacuum emulsification equipment for suppositories

栓剂真空乳化成套设备

本机组由乳化搅拌锅、基质溶解罐、热水保温系统、真空系统、液压系统、热水循环系统、自动供料系统、电器控制系统等部分组成。

The unit is composed of emulsifying and blending boiler, substrate dissolving tank, hot water heatpreservation tank, vacuum system, hydraulic system, hot water circulating system, automatic feeding system, electric control system, etc.

优点 Advantage

本机组采用上部同轴三重型搅拌器，液压升降开盖，快速均质搅拌器转速：0-1800r/min（变频调速）、慢速刮壁搅拌器转速：0-40r/min（变频调速）、均质器采用高剪切涡流式乳化搅拌机，慢速刮壁搅拌自动紧贴锅底及锅壁。在搅拌过程中经凸轮转子泵将物料做外循环工作，使物料完全能达到乳化效果。采用真空吸料、特别对粉体物料利用真空吸入避免粉尘飞扬。整个工序在真空条件下进行，防止物料在高速搅拌后产生气泡，能达到卫生无菌要求。本机组对配制好的物料通过液位控制自动供料至包装机容器。本系统配有CIP清洗系统，容器与物料接触部分采用SUS316L材料制造，内表面镜面抛光300EMSH（卫生级）。为了确保控制部分的稳定，电器控制部分采用德国西门子公司产品，按钮采用日本富士公司产品，变频器采用日本松下电工，真空泵采用纳西姆（原西门子）公司产品。本机组完全符合GMP要求制造，是目前国内最先进、最理想的栓剂配制装置。

The machine has triple blender, hydraulic lift cover, high-speed homogeneity blender (Speed is 0-1800r/min, frequency speed regulation) and low-speed scraper blender (Speed is 0-40r/min, frequency speed regulation). Fast-cutting vortex emulsification blender is used in the homogeneity part, which can scrape in a low speed and automatically blend and snuggle up to the bottom and wall of boiler. In the course of mixing the cam rotor pump let the material move in the way of outer circle in order to emulsify the material. The machine makes the material mix into the vessel of package machine by automatic hydraulic control feeding material. The machine draws powder material by the way of vacuum in order to prevent the powder flying. The whole working procedure is operated in the condition of vacuum in order to prevent the material coming into being bubble after high-speed blending and reach the request of sanitation and asepsis. CIP cleaning system is equipped in this system. The contact part of vessel and material is made from SUS316L material. Mirror finish of the inside surface is 300EMSH. In order to ensure the stabilization of the control, the electro-control part is the products of Germany Siemens Company, the button is produced by Japan Fuji Company, the transducer is the product of Japan Matsushita Electric Industries and the vacuum pump is the product of Siemens Company. The machine is made completely according to the GMP request, which is the most advanced and most perfect suppository production equipment.



用途 Use

本机组适用于配制栓剂产品，对于油基质、霜基质、水溶性质、尤其对基质粘度大，固料含量比较高的物料配制更显著功效。

The machine is used to produce the suppository medicine and specially used to emulsification of oil stroma, cream stroma, solubility material and pectic material with high content of solids.

特点 Characteristic

本机组具有操作简便→性能稳定→均质性好→生产效率高→清洗方便→结构合理→占地面积少→自动化程度高等特点。

The machine has easy operation, steady capability, good homogeneity, high efficiency, reasonable structure, small volume and high automation level and easily clean.

主要技术参数 Main technique parameter

型号 Model	乳化马达(emulsify)		搅拌马达(agitator)		外型尺寸(outside dimension)				总功率 Total power (kw)
	KW	r/min	KW	r/min	长 (length)	宽 (width)	高 (height)	全高 (max h)	
TFSRJ-100L	3	0-1800	1.5	0-40	2400	2360	2200	2800	10
TFSRJ-150L	4	0-1800	1.5	0-40	2450	2375	2200	2900	11
TFSRJ-200L	5.5	0-1800	1.5	0-40	2500	2380	2200	2900	12
TFSRJ-350L	7.5	0-1800	2.2	0-40	2800	2600	2550	3400	19
TFSRJ-500L	7.5	0-1800	2.2	0-40	3700	3500	2600	3500	19

EMULSIFICATION

TFZRJ Aseptic Vacuum Emulsification Complete Equipment (Explosion proof Type)

TFZRJ无菌真空乳化成套设备（防爆型）

产品特点 Characteristic

- 1、本机组具有操作简便—无菌性能稳定—均质性好→生产效率高—清洗方便—结构合理—占地面积少—自动化程度高等特点。
- 2、防爆乳化机是日化、食品制药等行业常见的一种操作单元，采用PLC或者按钮控制，配有防爆电器等，适用一些有防爆需求的物料类似乙醇，异丙醇等乳液混合。
- 3、本机组采用整体防爆设计、制造、安装，可提供国家防爆证书。

1. This unit has the characteristics of easy operation, stable aseptic performance, good homogeneity, high production efficiency, convenient cleaning, reasonable structure, small footprint, and high degree of automation.
2. Explosion proof emulsification machine is a common operation unit in daily chemical, food and pharmaceutical industries. It is controlled by PLC or button and equipped with explosion-proof electrical appliances. It is suitable for mixing lotion like ethanol, isopropanol and other materials with explosion-proof requirements.
3. This unit adopts an overall explosion-proof design, manufacturing, and installation, and can provide a national explosion-proof certificate.



主要技术参数 Main technique parameter

型号 Model	乳化马达(emulsify)		搅拌马达(agitator)		外型尺寸(outside dimension)				总功率 Total power (kw)
	KW	r/min	KW	r/min	长 (length)	宽 (width)	高 (height)	全高 (max h)	
TFSRJ-100L	3	0-1800	1.5	0-40	2400	2360	2200	2800	10
TFSRJ-150L	4	0-1800	1.5	0-40	2450	2375	2200	2900	11
TFSRJ-200L	5.5	0-1800	1.5	0-40	2500	2380	2200	2900	12
TFSRJ-350L	7.5	0-1800	2.2	0-40	2800	2600	2550	3400	19
TFSRJ-500L	7.5	0-1800	2.2	0-40	3700	3500	2600	3500	19

EMULSIFICATION

Emulsification complete system (lift type premix tank)

乳化成套系统（升降式预混罐）

产品特点 Characteristic

- 1、配置可升降式预混罐；
 - 2、能实现高效的混合、分散，可对物料加热/冷却；
 - 3、螺带式搅拌可正反转；
 - 4、高效率的外循环均质器；
 - 5、支持CIP/SIP系统以及原位清洗设备；
 - 6、提供多种开放性的接口，更好的设备以及系统兼容性；
 - 7、支持远程诊断，维护更便捷；
 - 8、更好的人机界面，实现灵活高效的现场操作；
1. Configure adjustable premix tank;
 2. Can achieve efficient mixing and dispersion, and can heat/cool materials;
 3. Spiral belt mixing can be reversed in both directions;
 4. Efficient external circulation homogenizer;
 5. Support CIP/SIP systems and in-situ cleaning equipment;
 6. Provide multiple open interfaces for better device and system compatibility;
 7. Support remote diagnosis for easier maintenance;
 8. Better human-machine interface for flexible and efficient on-site operations;

为您提供本地化解决方案

- 本地支持能力能覆盖乳化范围内交钥匙工程项目、服务以及综合工艺技术
- 工程服务
- 交钥匙项目
- 质量和安全保证
- 费用预算以及进度控制
- 人力资源控制
- 项目工程能力
- 基础设计和详细设计
- 工艺流程和工艺整合
- 机械和电器工程能力
- 采购
- 现场项目实施
- 制造
- 罐
- 模块系统
- 阀阵
- 卫生级流体配件
- 阀门
- 各类管道配件
- 自控系统
- 电气设计
- 控制柜制作



Provide you with localization solutions

- Local support capacity can cover turnkey projects, services and integrated process technology within the scope of emulsification
- Engineering services
- Turnkey project
- Quality and safety assurance
- Cost budget and schedule control
- Human resource control
- Project engineering capability
- Basic design and detailed design
- Process flow and process integration
- Mechanical and electrical engineering capability
- purchase
- On site Project Implementation
- manufacture
- pot
- Modular system
- Valve array
- Sanitary fluid fittings
- valve
- Various pipe fittings
- Automatic control system
- electrical design
- Fabrication of control cabinet

EMULSIFICATION

TFZRJ Pro series emulsifier

TFZRJ-Pro 系列乳化机

产品特点 Characteristic

- 1、TFZRJ Pro 系列真空乳化设备能实现高效的混合、分散，可对物料加热/冷却，螺带式搅拌可正反转高效率的外循环均质器支持CIP/SIP系统以及原位清洗设备；
- 2、提供多种开放性的接口，更好的设备以及系统兼容性；
- 3、支持远程诊断，维护更便捷；
- 4、更好的人机界面，实现灵活高效的现场操作。

1. The TFZRJ Pro series vacuum emulsification equipment can achieve efficient mixing and dispersion, and can heat/cool materials. The spiral belt stirring can rotate forward and backward, and the high-efficiency external circulation homogenizer supports CIP/SIP systems and in-situ cleaning equipment;
2. Provide multiple open interfaces for better device and system compatibility;
3. Support remote diagnosis for easier maintenance;
4. Better human-machine interface for flexible and efficient on-site operations.



本机组具有操作简便、性能稳定、性能稳定、均质性好、生产效率高、清洗方便、结构合理、占地面积少、自动化程度高等特点。

This unit has the characteristics of easy operation, stable performance, good homogeneity, high production efficiency, easy cleaning, reasonable structure, small footprint, and high degree of automation.

EMULSIFICATION

Pilot vacuum emulsification unit

中试真空乳化机组

用途 Use

本机组适用于膏或霜类产品，如化妆品、药品、日用品等产品的实验或小批量生产，尤其对基质粘度大。固料含量比较高的物料配置乳化更显著功效；也适用于各种高剪切、中剪切、低剪切物料的均质乳化。

This unit is suitable for experimental or small-scale production of cream or cream products, such as cosmetics, drugs, daily necessities, etc., especially for high matrix viscosity. The emulsification effect is more significant when configuring materials with higher solid content; It is also suitable for homogeneous emulsification of various high shear, medium shear, and low shear materials.

产品特点

a).高级成度

本机组集成了整个均质乳化过程的所有工艺流程，从预混→进料→均质搅拌→乳化→出料，均可通过本机组完成，客户只需接入水（冷却加热使用）、电，以及排污（排水）口即可使用；

b).自动化程度高

本机组全部由本公司自行开发的程序控制，通过触控式屏幕，实现本机组的所有功能；

c).可控性强

本机组人机界面的设定非常友好，机器操作比较容易；通过独有的主锅玻璃罐材质设计，客户对实验或生产的物料，过程可以清晰的观察，以达到最优可控效果；

d).周转灵活

本机外形新颖灵巧，配有可移动脚轮，客户可根据实际需要，方便更换工作场地

e).可靠性设计

本机组采用不锈钢材料制成，所有可能与材料接触的部位均是采用SUS316L材料设计制造。高强度设计辅以特殊涂层等先进工艺，国际知名品牌元器件采购等，保证本机可靠性运转；

f).机组设计和制造符合GMP标准；

g).本机组引进国际先进技术并经过专业的二次开发，我公司对本机组拥有全部技术只是产权。



Characteristic

a) Advanced degree

This unit integrates all the process flows of the entire homogenization and emulsification process, from pre mixing→feeding→homogenization and stirring→emulsification→discharging, all of which can be completed through this unit. Customers only need to connect water (for cooling and heating), electricity, and sewage (drainage) outlets to use it;

b) High degree of automation

This unit is entirely controlled by a program developed by our company, and all functions of this unit are achieved through a touch screen;

c) Strong controllability

The human-machine interface settings of this unit are very friendly, and the machine operation is relatively easy; Through the unique design of the main pot glass jar

material, customers can clearly observe the materials and processes used in experiments or production to achieve optimal controllability;

d) Flexible turnover

This machine has a novel and agile appearance, equipped with movable casters. Customers can easily change their work site according to their actual needs

e) Reliability design

This unit is made of stainless steel material, and all parts that may come into contact with the material are designed and manufactured using SUS316L material. High strength design combined with advanced processes such as special coatings, and procurement of internationally renowned brand components to ensure the reliable operation of the machine;

f) The unit design and manufacturing comply with GMP standards;

g) This unit has introduced international advanced technology and undergone professional secondary development. Our company owns all the technology and property rights of this unit.

EMULSIFICATION

Display

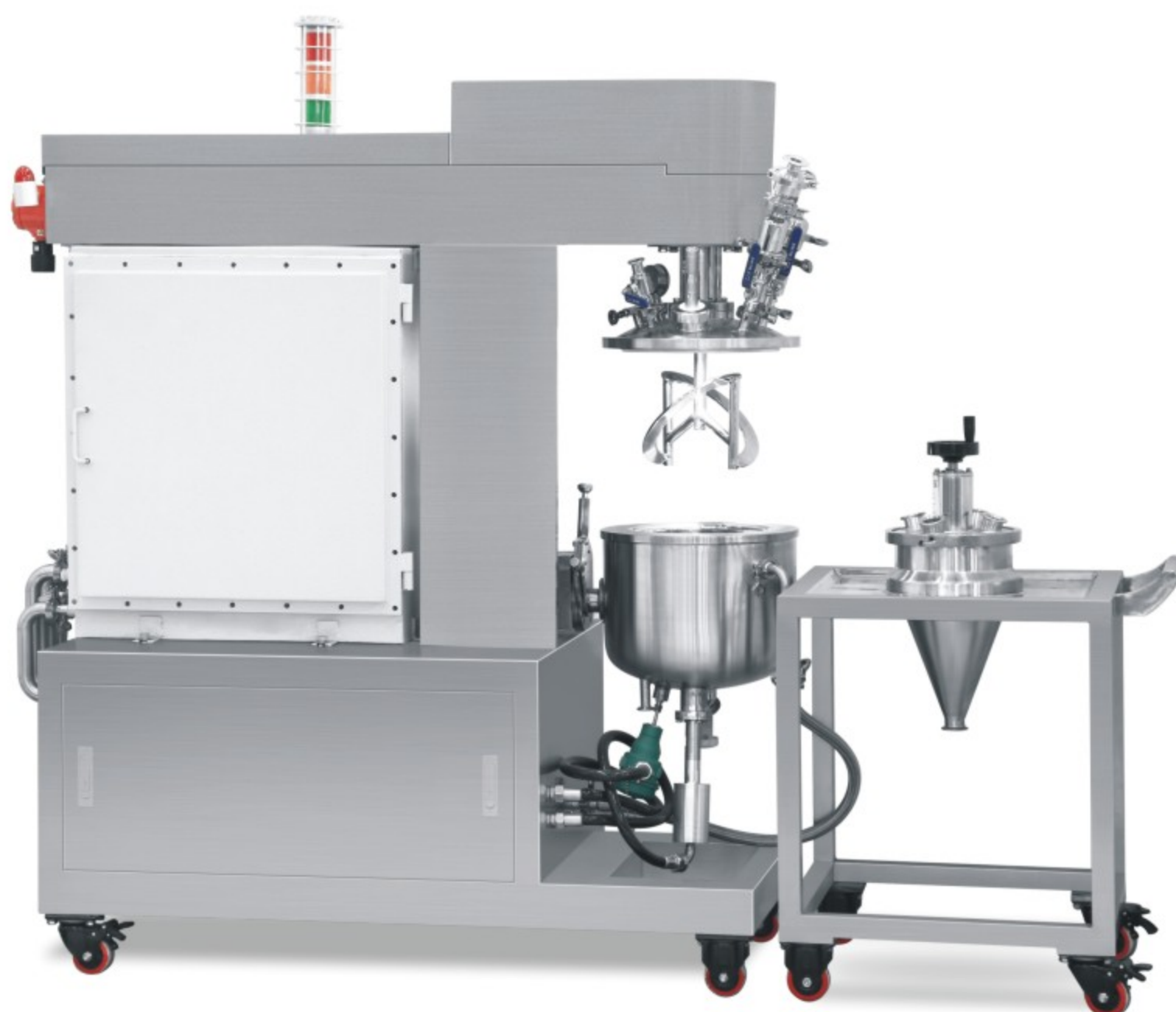
均质器展示



EMULSIFICATION

Pilot scale perfume ingredient equipment

中试香水配料设备



香水制备系统工艺路线 Process route of perfume preparation system

预处理→混合→醇化→冷冻→过滤
Preprocessing → Mixing → Alcoholization → Freezing → Filtration

香水系统配置 Perfume system configuration

- | | |
|------------|---|
| ◆ 不锈钢保温冷冻罐 | ◆ Stainless steel insulated freezing tank |
| ◆ 冷冻机组 | ◆ Refrigeration unit |
| ◆ 防腐气动隔膜泵 | ◆ Anti corrosion pneumatic diaphragm pump |
| ◆ 聚丙烯微孔过滤膜 | ◆ Polypropylene microporous filtration membrane |
| ◆ 超声波醇化 | ◆ Ultrasonic alcoholization |

SOFT CAPSULES

Soft Capsule Adhesive Ingredient System

软胶囊化胶配料系统

产品概述 Product overview

水浴式双向搅拌化胶罐是胶囊化胶、配料、真空、冷凝等生产工艺中的主要配套设备，搅拌形式采用双向多层分流式搅拌，结构紧凑，传动平稳，性能稳定，具有物料搅拌均匀、加速胶液溶化等优点。如热形式采用水浴式热水循环加热，具有加热速度快、均匀，温度控制稳定，能达到最佳的化胶温度，提高胶液质量，缩短化胶时间。本设备整体由不锈钢制造，结构形式为内胆、夹套、保温层等三层结构。内胆封闭式，能承受正、负压出料或进料，罐体附带温度计、真空压力表、搅拌系统、人孔、视灯、呼吸器等配件，所有有物料接触部份采用卫生级镜面抛光，具有清洗方便、防腐、防酸等优点，完全符合GMP卫生标准要求，是目前国内外软胶囊行业作为化胶、配料的理想设备。

Water-bath bi-directional stirring melting glue tank is the main complete set of equipment in process of melting glue, preparation, vacuum and condensation etc. The mode of stirring adopts bi-directional multilayer distributary stirring, the structure is compact, the transmission is balanced, the capability is stable; having the strong point such as stirring material equably, accelerating melting glue etc. The mode of heating adopts water-bath with circular hot water, heating quickly and equably; the temperature can be controlled stably; can be up to the best temperature for melting glue, improving the quality of glue liquid, and shortening the temperature for melting glue. The equipment is made for stainless steel, having following three layers structure e.g.: bladder, sandwich sheath, heat preservation layer; the bladder is close, it can bear positive and negative pressure to output or feeding, the tank is equipped with thermometer, vacuum manometer, stirring axletree, manhole, lamp, aerophore etc; all parts touched by material adopt the sanitary mirror polishing, having some strongpoint such as cleaning easily, antisepticising, anti-acid etc; it completely conforms to GMP, and is the ideal equipment for melting glue and matching material in domestic and overseas capsule pharmacy industry recently.



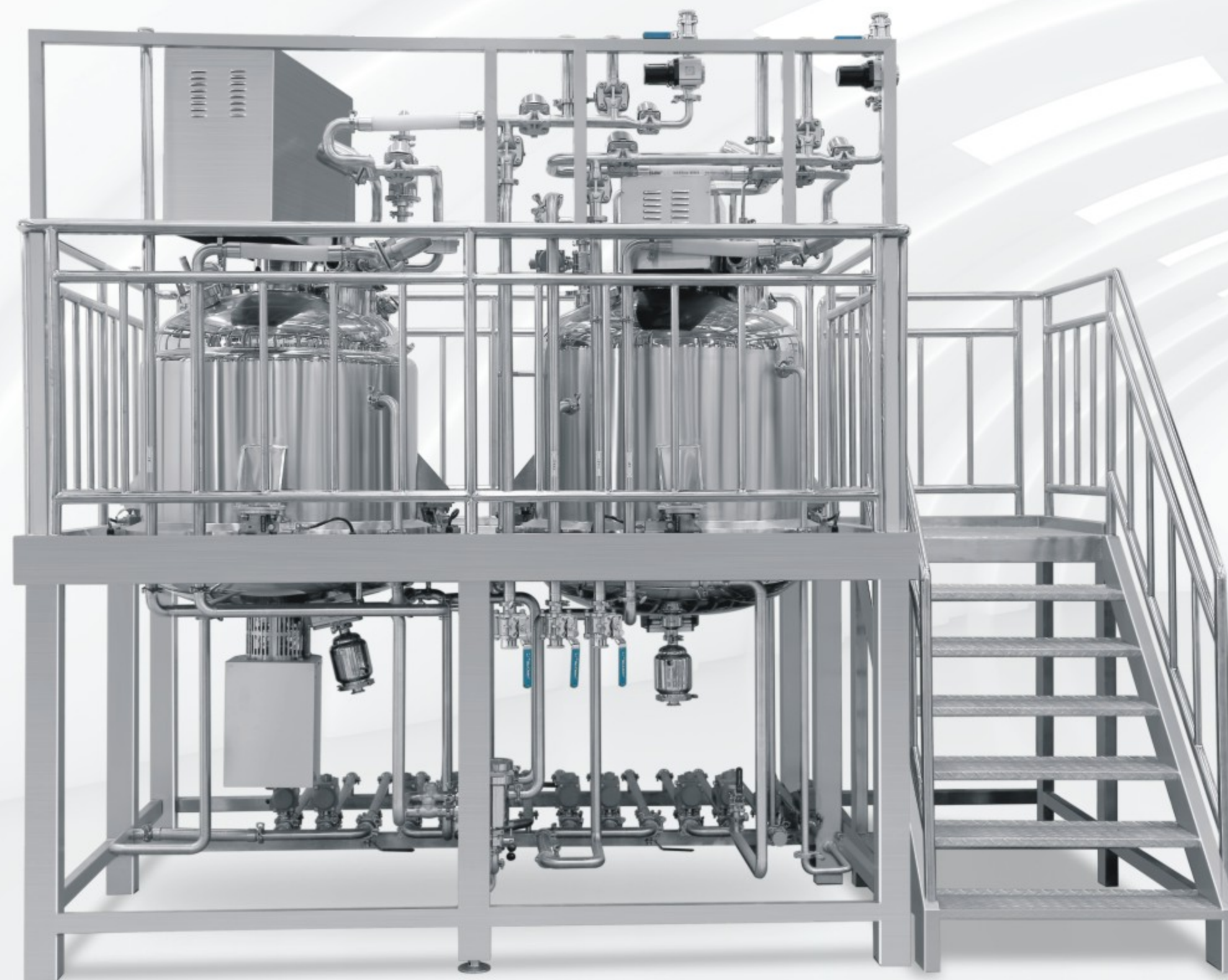
调色搅拌混合机
Toning blender



胶液罐
Glue tank



转笼
Rotating cage



主要技术参数 Main technique parameter

产品型号 Type of products	全容积 L The whole capability	有效容积 L The valid capability	加热面积 m ² Heating area	真空度 Mpa Vacuum degree	工作温度 °C Working temperature	功率 KW power	搅拌转速 转/分 Rotate speed for stirring
TFHJG-450	650	450	3.2	—0.09	≤100	5.5	25
TFHJG-600	900	600	4	—0.09	≤100	5.5	25
TFHJG-800	1120	800	4.8	—0.09	≤100	7.5	25
TFHJG-1500	1300	1000	5.5	—0.09	≤100	7.5	25

SOFT CAPSULES

Soft Capsule Adhesive Ingredient System

软胶囊化胶配料系统

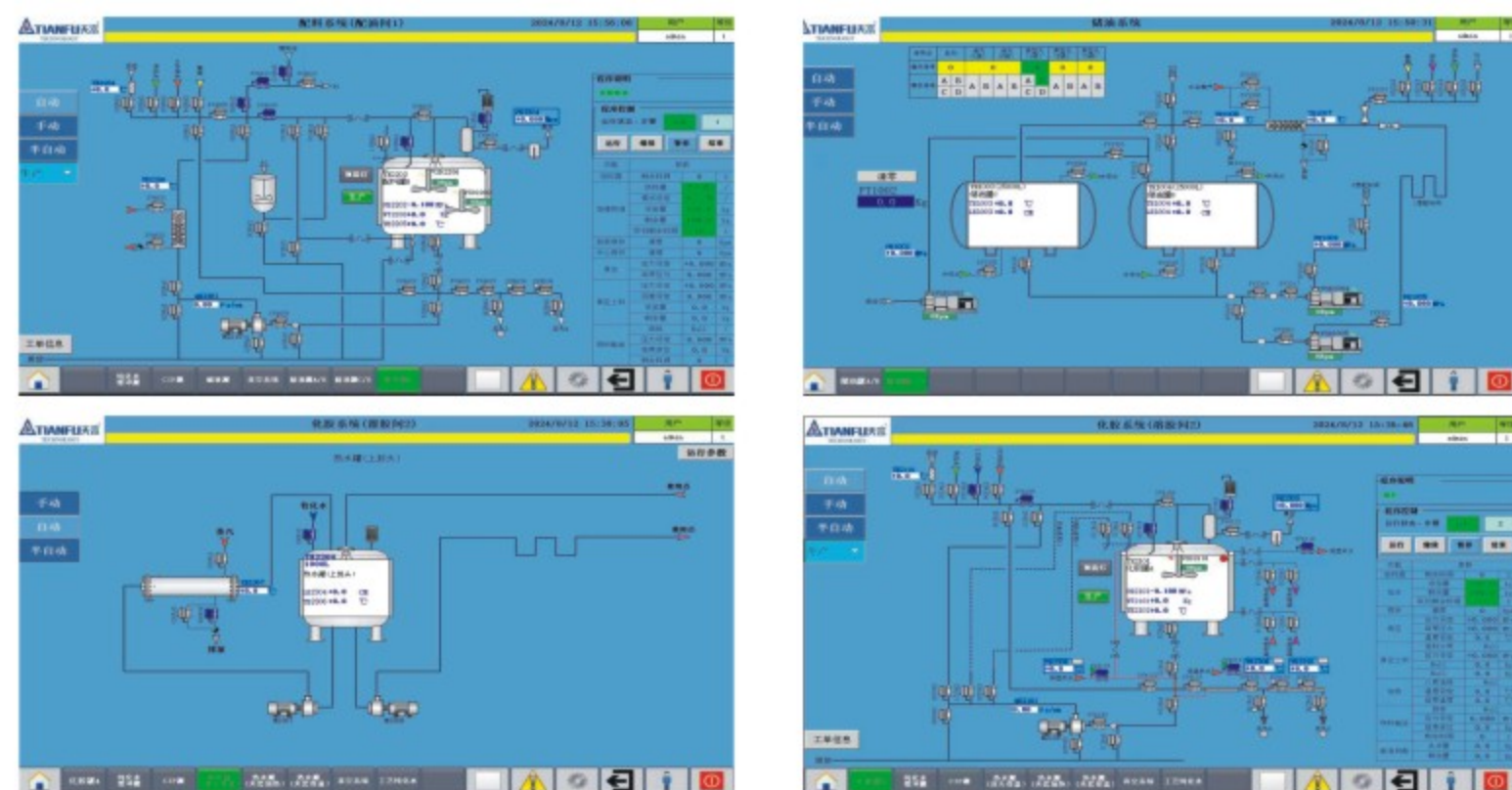
手动溶胶与数字化溶胶系统参数/指标对比

Comparison of parameters/indicators between manual sol and digital sol systems

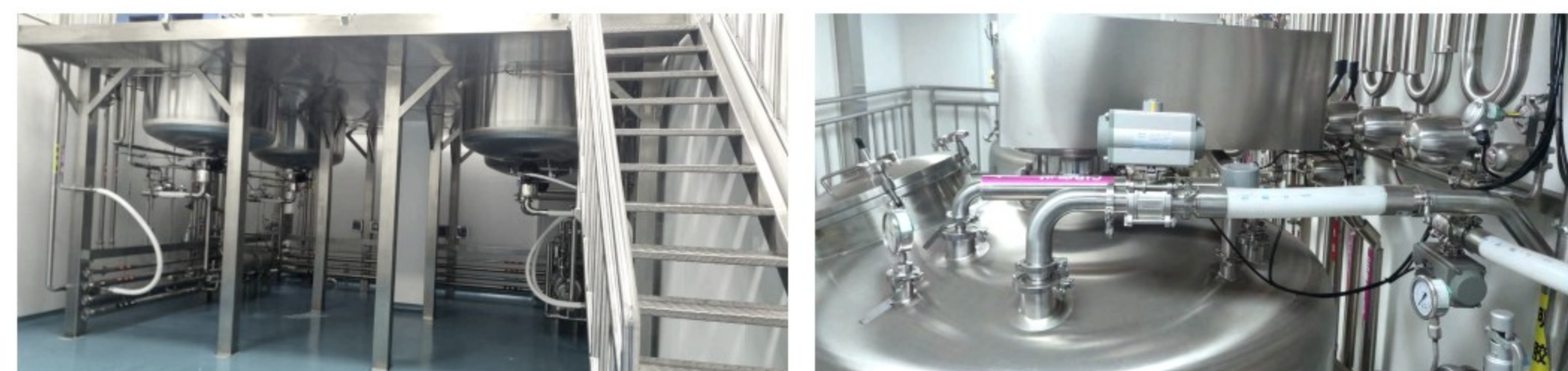
项目	手动溶胶	数字化溶胶系统
配方管理	/	系统自动存储或调用配方，方便快捷
称量工作量	工作量大	系统在线称量，自动记录，大幅减少人工成本
加热方式	手动温控	由比例调节阀自动控制，实现精确控温
脱泡方式	人工观察，费时费力，易误操作	系统自动真空脱泡，安全可靠、工作效率高
静置环节	人工控温，容易偏差	精确控温无偏差
出料环节	易误操作，出料量无法准确计量	系统自动加压出料，出料量可控
运转过程	人工操作费时费力	在线输送，避免交叉污染
清洗环节	工作量大，效果难以保证	自动在线清洗，清洗效率高，清洗流程标准化，同时实现在线电导率检测，清洗效果可监控，且节水节能。
数据记录方式	手工记录，易出错且易丢失	系统自动记录投料量、生产时间、批号、操作人等生产数据，可批量导出。
避免误操作及故障报警	易误操作，无故障报警	系统自带联动自锁装置和报警装置，避免误操作，故障时自动停机、记录、并反馈故障位置。
操控性	凭经验操作	对操作人员无经验要求，培训上岗即可操作
用工	一人一机，人工成本高	实现一人多机操作，节省用工成本

数字化软胶囊化胶配料系统操作界面

Operation interface of digital soft capsule rubber ingredient system



工程案例 Engineering case



全自动配料化胶系统
Fully automatic batching and gluing system



CIP及热水系统
CIP and hot water system

集中真空泵站
Centralized vacuum pump station

在线供胶供料系统
Online glue supply system

DOUBLE

Chamber cage cleaning machine

双腔转笼清洗机

产品概述 Product overview

双腔转笼清洗机是应用于软胶囊干燥转笼的自动清洗和干燥。配一台双腔转笼清洗机能够满足不同规格转笼的清洗及干燥要求，是满足药厂批量转笼的清洗、干燥的理想设备。

该机是我公司广泛吸收、消化国外先进技术，结合国情研发的集清洗、干燥、机电一体化智能设备。一个腔室完成清洗和干燥，两个腔室可同时进行工作，整机效率高；采用的专用干燥室，在工作过程中可以减少温度波动，从而显著提高干燥效率和减少能耗；该机优化了生产工艺，提高了生产效率，完全符合药品生产的GMP要求。

The dual chamber rotary cage cleaning machine is used for automatic cleaning and drying of soft capsule drying rotary cages. Equipped with a dual chamber rotary cage cleaning machine, it can meet the cleaning and drying requirements of different specifications of rotary cages, and is an ideal equipment for batch cleaning and drying of rotary cages in pharmaceutical factories.

This machine is an intelligent equipment developed by our company that integrates cleaning, drying, and electromechanical integration, widely absorbing and digesting advanced foreign technologies and combining them with national conditions. One chamber completes cleaning and drying, while two chambers can work simultaneously, resulting in high overall efficiency; The dedicated drying chamber used can reduce temperature fluctuations during operation, significantly improving drying efficiency and reducing energy consumption; The machine has optimized the production process, improved production efficiency, and fully meets the GMP requirements for drug production.

工作原理 Working principle



主要技术参数 Main technique parameter

参数名称	Parameter name	参数
离心泵(kw)	Centrifugal pump	3
电加热(kw)	Electric heating	9
进风风机(kw)	Inlet fan	0.75
排风风机(kw)	Exhaust fan	1.1
压缩空气(MPa)	Compressed air	0.6
进口空气过滤效率(μg/L)	Imported air filtration efficiency	H13 (检测标准值≤0.03)
空气加热温度(℃)	Air heating temperature	≤85
空气流量(m³/h)	Air flow rate	2250
扇形喷嘴(个)	Fan shaped nozzle	5
360° 旋转喷嘴(个)	360° rotating nozzle	6

STERILE

Aseptic microsphere dispensing system (explosion-proof type)

无菌微球配料系统（防爆型）

微球制备系统工艺路线 Process route of microsphere preparation system

水、油相除菌过滤→乳化→均质→固化→收球

即将脂溶性原辅料溶解于有机溶剂中为油相；将乳化剂聚乙烯醇(PVA)溶解于水性介质中水相；在高速剪切条件下，将油相注入水相中，两相混合乳化形成水包油(O/W)乳滴；再利用物理条件挥发乳剂中的有机溶剂，随着有机溶剂的减少，乳滴固化，形成微球。

Water and oil phase sterilization filtration → emulsification → homogenization → solidification → ball collection

Dissolve fat soluble raw materials in organic solvents to form an oil phase; Dissolve the emulsifier polyvinyl alcohol (PVA) in the aqueous phase of the aqueous medium; Under high-speed shear conditions, the oil phase is injected into the water phase, and the two phases are mixed and emulsified to form oil in water (O/W) droplets; Reuse the physical conditions to evaporate the organic solvents in the emulsion. As the organic solvents decrease, the droplets solidify and form microspheres.

常用的聚合物材料 Common polymer materials

- 1、聚乙丙交酯 (PLGA) 聚乳酸-羟基乙酸共聚物
(Poly(D,L-lactide-co-glycolideacid), PLGA)
- 2、聚乳酸 (PLA)
(Poly lacticacid, PLA)
- 3、聚己内酯 (PCL)
聚己内酯 (Poly(ε-caprolactone), PCL)



微球设备特点 Characteristics of microsphere equipment

- 1、二十多年分散乳化设备设计/生产经验，定制化乳化头，保证乳化粒径均一；
 - 2、合理的管道坡度，设备落差设计及过滤器选型，降低产品残留；
 - 3、高精度的油水比例混合的控制，保证乳化效果；
 - 4、提供不同的微球制备方式，适应不同性质的API；
 - 5、配套的隔离器系统，确保制备过程的无菌环境。
1. More than 20 years of experience in designing/producing dispersed emulsification equipment, customized emulsification heads to ensure uniform emulsification particle size;
 2. Reasonable pipeline slope, equipment drop design, and filter selection to reduce product residue;
 3. High precision control of oil-water ratio mixing to ensure emulsification effect;
 4. Provide different microsphere preparation methods to adapt to APIs with different properties;
 5. The supporting isolator system ensures a sterile environment during the preparation process.

STERILE

Automated liquid dispensing module

自动化配液模块

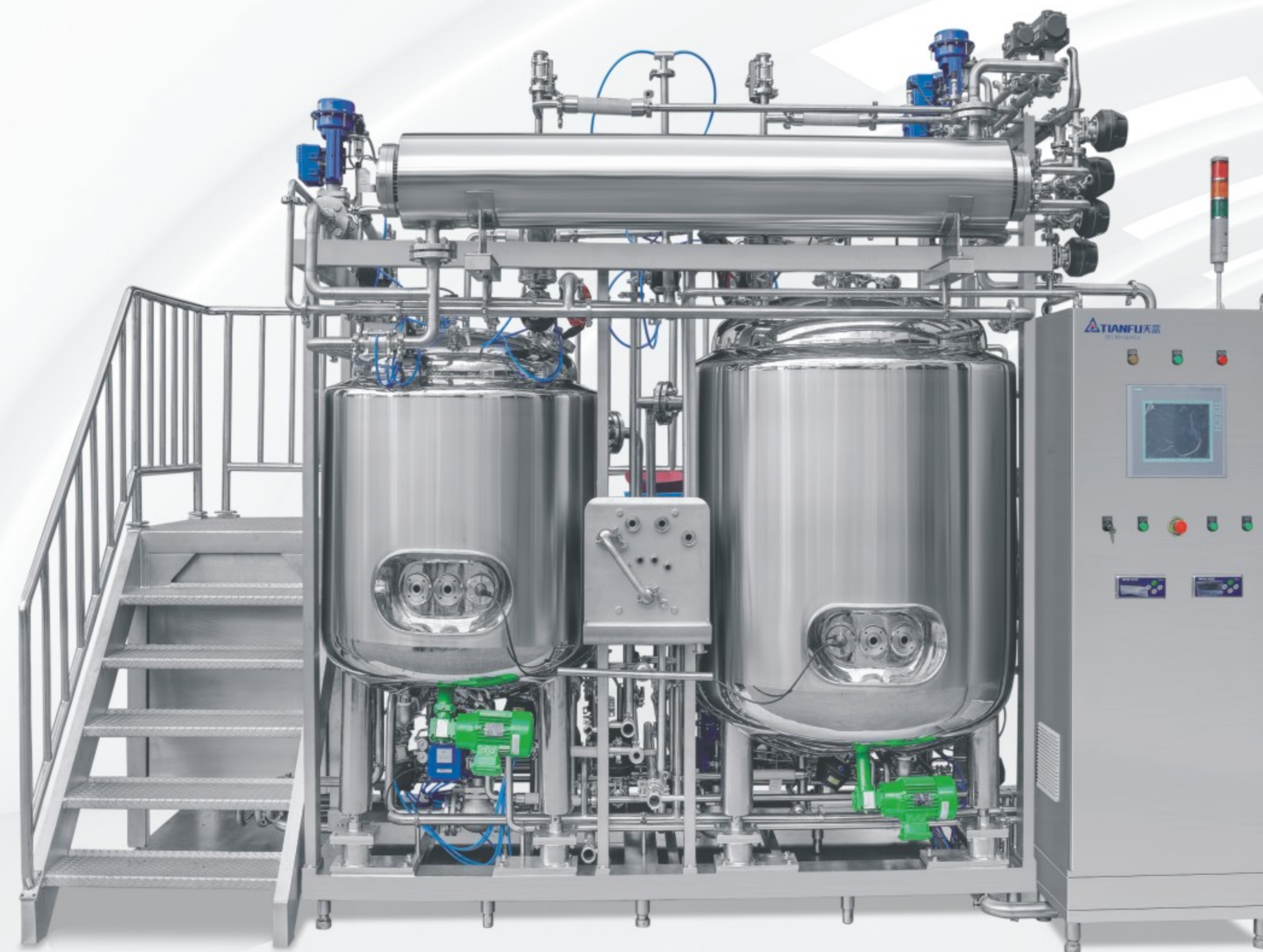
应用系统板块 Application system module

- ◎ 冻干或水/油针配液系统
- ◎ 大输液配液系统
- ◎ 中药注射剂配液系统
- ◎ 口服液配液系统
- ◎ 滴眼液配液系统
- ◎ 小容量中试自动化配液系统
- ◎ Freeze-drying or hydro-acupuncture/oil needle liquid preparation system
- ◎ Large transfusion liquid preparation system
- ◎ Traditional Chinese medicine injection liquid preparation system
- ◎ Oral liquid preparation system
- ◎ Eye drops liquid preparation system
- ◎ Small volume pilot test automatic liquid preparation system

产品概述 Product overview

在制药、生物工程、精细化学等行业的核心生产工艺中，为了消除产品生产交叉污染的风险和降低染菌的概率，卫生级的工艺生产准则必须得以满足，每一个细节的设计必须达到高质量的要求，相关的国家和国际的法定标准必须遵守。模块化的工艺单元设计是对这些要求实现快速响应并降低产品成本，最有效的一种方法。高性能的模块化工艺单元能保证生产的无障碍、平稳的运行。作为您值得信耐的合作伙伴，天富企业有多年的经验并拥有完美技术，能提供完整的生产系统模块化解决方案。

In order to eliminate the risk of cross contamination during production and reduce the probability of microbiological contamination in the key manufacturing process of pharmaceutical, biotechnological and fine chemistry industries, the process production standard must be met, design of each detail must meet high quality requirements, and relevant national and international mandatory standards must be complied with. Modular process unit design is the most efficient way to achieve quick response and cut down costs. High-performance modular process unit design can ensure the barrier free and stable operation of production. Being your reliable partner, Tianfu Enterprise has many years of experience and perfect technology to provide complete modularity solution in the production system.



浓配:	Concentrated solution:	稀配:	Diluted solution:
CIP:浓配罐、管路	CIP: concentrated solution tank, pipeline	CIP:稀配罐、管路	CIP: diluted solution tank, pipeline
SIP:浓配罐、管路、过滤器	SIP: concentrated solution tank, pipeline, filter	SIP:稀配罐、管路、过滤器	SIP: diluted solution tank, pipeline, filter
管路干燥	Dryness of the pipeline	过滤完整性测试	Integrity test of filtration
正压保护	Positive pressure protection	管路干燥	Dryness of pipeline
进WFI	Injection of WFI	正压保护	Positive pressure protection
搅拌和温控	Mixing and temperature control	进料	Feeding
进料	Feeding	搅拌和温控	Mixing and temperature control
补WFI	Adding WFI	进料	Feeding
脱碳过滤循环	Decarbonization filtering circulation	补WFI	Adding WFI
取样	Sampling	搅拌和温控	Mixing and temperature control
搅拌和温控	Mixing and temperature control	取样	Sampling
取样	Sampling	出料	Discharging
出料	Discharging	除菌过滤	Sterilization and filtration
		去灌装	Filling

TOOTHPASTE

Complete set of equipment for making toothpaste paste

牙膏制膏成套设备

本机械其他特点 Other Features Of The Machine

- 1、采用立体式粉料投放方式，减少粉料输送的距离；
- 2、平台设计留足人流物流通道，便于物料的停放和转移；
- 3、整体平台式布局，优化底部维修空间设计。

1. Adopting a three-dimensional powder feeding method to reduce the distance of powder transportation;
2. The platform design provides sufficient pedestrian and logistics channels to facilitate the parking and transfer of materials;
3. Overall platform layout, optimized bottom maintenance space design.

系统结构优势 System architecture advantages

- 1、搅拌器采用独立减速机控制，无横梁结构和链轮链带结构，传动效率高，噪音小
 - 2、双缸液压，优化升降系统同步测量装置，确保升降同步精度；
 - 3、采用加强的搅拌桨叶及无死角的刮壁空间，适合大吨位大规格罐体的物料搅拌；
 - 4、采用整体框架式机架，便于设备转运和安装，适应GMP的要求；
1. The mixer is controlled by an independent reducer, with no crossbeam structure or sprocket chain structure, high transmission efficiency, and low noise;
 2. Double cylinder hydraulic system, optimized synchronous measurement device for lifting system, ensuring synchronous accuracy of lifting and lowering;
 3. Equipped with reinforced mixing blades and no dead angle scraping space, suitable for mixing materials in large tonnage and large specification tanks;
 4. Adopting an integral frame rack for easy equipment transportation and installation, meeting GMP requirements;



工艺优势 Technological advantages

- 1、可实现自动称重计量和全自动管道加料计量；
- 2、可配置节水型CIP循环清洗系统；
- 3、预留外循环均质对接单元，可以实现不同的配制工艺和循环均质工艺；
- 4、采用整体框架式机架，便于设备转运和安装，适应GMP的要求；
- 5、采用罗茨风机配置，可以实现分仓和搅拌混合罐的负压吸料功能、
- 6、大粉仓与粉料混合罐物料转移联动精确控制，速度快，精度高；
- 7、可配置压缩空气烘干系统，避免长霉菌等有害微生物，适应GMP的要求；

1. It can achieve automatic weighing and measurement, as well as fully automatic pipeline feeding and measurement;
2. Configurable water-saving CIP circulating cleaning system;
3. Reserved external circulation homogenization docking unit, which can achieve different preparation processes and circulation homogenization processes;
4. Adopting an integral frame rack for easy equipment transportation and installation, meeting GMP requirements;
5. By using a Roots blower configuration, it is possible to achieve negative pressure suction function for the silo and mixing tank
6. The precise control of material transfer linkage between the large powder warehouse and the powder mixing tank is fast and accurate;
7. Configurable compressed air drying system to avoid harmful microorganisms such as mold and adapt to GMP requirements;

TOOTHPASTE

Complete set of equipment for making toothpaste paste

牙膏制膏成套设备

产品概述 Product overview

TFZG系列制膏成套设备是我公司参考国内外同类设备的技术性能，自行研制开发的第一代制膏设备。TFZG系列制膏成套设备包括：TFZG系列真空制膏机、液体原料储罐和预混锅、粉料气力输送、暂存、计量、搅拌粉料斗、成品膏体输送泵和储膏罐等。根据要求进行适当组合，即可满足各种制膏工艺要求。我公司还可根据用户工艺要求进行各种制膏非标设备的设计、制作、安装、调试。TFZG系列真空制膏机与物料接触部分均采用优质不锈钢和无毒无害材料制成，内外均镜面抛光，符合食品卫生要求，能满足牙膏、化妆品、药品等介质在真空下制膏乳化的工艺要求，多种型号在有效工作范围内适合各种规模的生产。

The series of TFZG whole set cream equipment is the first generation cream equipment researched and manufactured by ourselves referring the technology capability of the same type of equipment in domestic and overseas. The series of TFZG whole set cream equipment contains: the series of TFZG vacuum cream machine, liquid material tank, boiler for preparing mixing, powder pneumatic feeding, temporary storage, measure, churn powder cup, feeding pump of finished cream product and tank for storing cream etc. Assemble them properly according to requirements, then can satisfy various requirements of cream process. Also we can design, manufacture, fix and debug the non-standard equipment of cream according to the process requirement of uses. The parts of the series of TFZG vacuum cream machine touching with material are all made for high quality stainless steel and non-toxic and non-poison material, mirror polishing inside and outside, meet the requirement of foodstuff sanitation, and can satisfy the emulsification process requirement of toothpaste, cosmetic and ointment etc under the condition of vacuum. Several types adopt various scale of producing in the valid working range.



主要技术参数 Main technique parameter

数据data	型号type	TFZG15	TFZG100	TFZG500	TFZG700	TFZG1300	TFZG3000
工作容积 (L) operating volume		15	100	250	700	1300	3000
真空度 (MPa) vacuum		-0.0973	-0.0973	-0.0973	-0.0973	-0.0973	-0.0973
主机总功率(kw) main machine total power		1.81	16.4	21.7	35	69.5	99.2
慢速搅拌转速(r/min) lower rotational speed of mixer		33	10-40	10-40	10-40	10-40	10-30
溶解器转速(r/min) rotational speed of dissolve instrument		2800	1500	1000	1000	1000	1000
均质器转速(r/min) rotational speed of homogenizer		2800	3000	3000	3000	2900	2900
真空度保持时间(h) vacuum remaing time		≥2	≥2	≥2	≥2	≥2	≥2
出料方式 discharging manner		翻转倾倒tripping	翻转倾倒tripping	泵出料by pump	泵出料by pump	泵出料by pump	泵出料by pump

NIGHT WASHING

Efficient shampoo production line

高效香波生产线

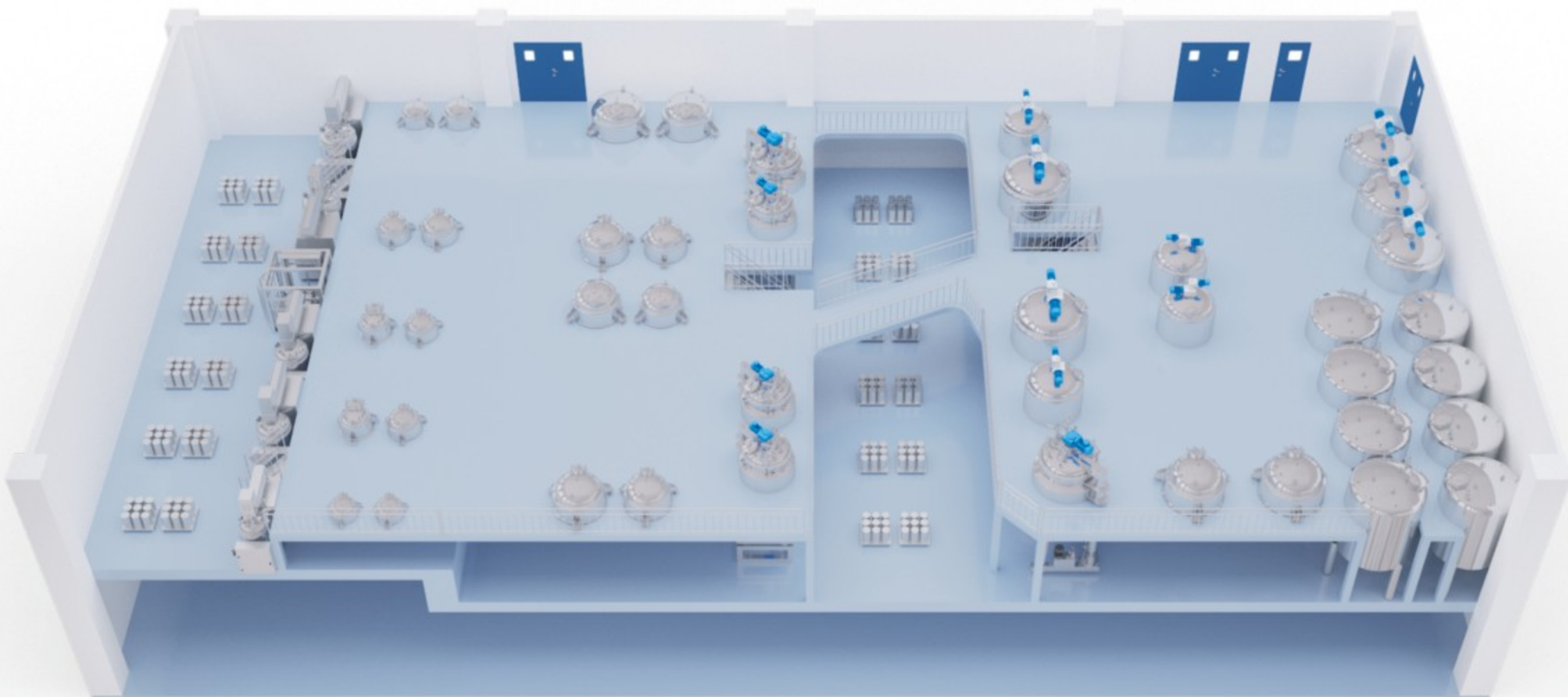
主要结构特点和工作原理 The main structural characteristics and working principle

模块集成化高效音波生产线（图一）主要由自动控制系统、电器柜、触摸屏、自动配料系统、主混罐、预混罐、蒸汽高压消毒系统、消洗系统管道、板式换热器及各种仪器、仪表等部件组成。该生产可根据生产场地灵活布置安装和分块调试，具有很大的自由度和灵活性。线上设备全部用不锈钢制造，外形美观、占地面积小、操作方便、易清洗、节能环保、安全可靠，生产效率和自动化程度高。

The modular integrated high-efficiency acoustic production line (Figure 1) mainly consists of automatic control system, electrical cabinet, touch screen, automatic batching system, main mixing tank, pre mixing tank, steam high-pressure disinfection system, disinfection system pipeline, plate heat exchanger, and various instruments and instruments. This production can be flexibly arranged, installed, and debugged in blocks according to the production site, with great freedom and flexibility. All online equipment is made of stainless steel, with a beautiful appearance, small footprint, convenient operation, easy cleaning, energy conservation and environmental protection, safety and reliability, and high production efficiency and automation level.

其工作原理是：利用高速旋转的叶轮，将所需混合的料和液体在绝对卫生、密闭、安全的环境下（壳体内）进行充分拌和，经称重系统按生产香波产品的自动配料系统的要求（重量比），称量出储存于各罐中的料，再将其混合搅拌均匀，输送出完全符合卫生标准（GMP）要求的能用于制药、食品和化妆品的混合物产品（如调理香波、中性香波、油性香波等）。

The working principle is to use a high-speed rotating impeller to thoroughly mix the required materials and liquids in an absolutely hygienic, sealed, and safe environment (inside the shell). The weighing system measures the materials stored in each tank according to the requirements of the automatic ingredient system for producing shampoo products (weight ratio), and then mixes and stirs them evenly to transport a mixture of products that fully meet the requirements of hygiene standards (GMP) and can be used in pharmaceuticals, food, and cosmetics (such as conditioning shampoo, neutral shampoo, oily shampoo, etc.).



主要技术参数 Main technique parameter

按浙江省经济和信息化委员会下达的技术指标	
主混罐容积	1000L ~ 5000L
预混罐容积	800L ~ 2000L
贮锅容积	2000L ~ 10000L
搅拌转速	0~ 100r/ min (变频调速)
乳化头转速	0 ~2800r / min(变频调速)
材质	外包不锈钢304;接触物料:316L
流量	≤20m³/ h
容器承压	0.45M Pa
工作压力	-0.09 MPa ~ 0.3 Mpa
真空系统承压	-0.09MPa ~ 0.3 Mpa
称重准确度	±0.5%
生产最高温度	90℃
过滤精度	80 ~ 120 目
节能减排	与老式的手动各种罐组成生产香波的设备相比 :节水60%，节蒸汽50%，省电40%；减少污水、污物排放30%。(用户使用报告)1.15年生产能力: ≤5000t

CIP

CIP cleaning system

CIP清洗系统

产品概述 Product overview

CIP清洗装置作为既不解体生产设备，又可用简单操作方法安全自动的清洗系统，几乎被引进到所有的食品、饮料及制药等工厂。CIP清洗装置不仅能清洗机器，而且还能控制微生物的清洗方法。

CIP cleaning device as neither decomposition production equipment, and can be used simple operation method safety automatic cleaning system, almost was introduced to all the food, beverage and pharmaceutical and other factories. CIP cleaning device can not only clean the machine, and still can control microbial cleaning method.

CIP清洗装置其有以下优点 CIP cleaning devices it has the following advantages

- 1、能使生产计划合理化及提高生产能力。
 - 2、与手洗相比较，不但没有因作业者之差异而影响清洗效果，还能提高其产品质量。
 - 3、能防止清洗作业中的危险，节省劳动力。
 - 4、可节省清洗剂、蒸汽、水及生产成本。
 - 5、能增加机器部件的使用年限。
 - 6、CIP清洗装置分手动、半自动及全自动三种供用户选择。
- 1、Can make the production plan rationalization and production capacity.
 - 2、Compared with the hand, not only the differences due to the operators can also affect cleaning effect, improving the product quality.
 - 3、Three, can prevent the dangers of the cleaning, save labour.
 - 4、Can save cleansing agents, steam, water and production cost.
 - 5、Can increase the service life of the machine parts.
 - 6、CIP cleaning device dynamic, semi-automatic and automatic broke up three for the user choice



产品概述 Product overview

全自动CIP清洗 (Cleaning In Place)是指设备 (罐体、管道、泵等) 及整个生产线在无须人工拆开或打开的前提下，在闭合的回路中进行循环清洗、消毒。我公司生产的CIP系统具有安全、节能、高效、操作维护方便等特点。自动CIP清洗系统由酸、碱、热水、纯水罐、浓酸、浓碱罐及换热器组成。可根据用户的设定自动配置酸碱浓度，用户可选择不同的清洗流程、不同的清洗温度、清洗时间。本系统PLC、触摸屏流量开关，控制阀及仪表均采用进口高品质的产品，保证了系统的准确性、稳定性。

Full automatic CIP cleaning (Cleaning in place) is to carry out circulation cleaning and disinfection under the condition that no need to open the equipment (container, channel, pump etc.) and the whole producing line artificially. The CIP system produced by our company has features such as safety, save energy, high efficiency, convenient operating protection etc. The automatic CIP cleaning system consists of acid, alkali, hot water, pure water container, thick acid, thick alkali and heat exchange instrument etc. According to automatic setting acid alkali density, the user can choose different cleaning process, different cleaning temperature, different cleaning time. The system PLC and the volume switch of touching screen, control valve and meter all use imported products with high quality, ensuring the accuracy and stability of system.

CONTAINER

Stainless steel container series

不锈钢容器系列

本系列不锈钢容器选用进口优质不锈钢（304、316等）材料，罐体内部采用镜面抛光，所有接口处采用圆角过渡焊接，无死角，易于清洗；保温采用聚氨酯整体发泡，夹套可根据用户需要采用夹套、盘管或蜂窝式夹层，附件配置可根据要求配置CIP清洗口、无菌空气呼吸口、人孔、温度计、取样口、进料口、备用口等。

根据客户需求可定制1-20000L各类配制罐、周转通、发酵罐等不锈钢容器；储罐最大可定制100吨。

