



**GMP** 日化 制药 智能设备"智"造

"INTELLIGENT" MANUFACTURE THE DAILY CHEMICAL, PHARMACEUTICAL AND INTELLIGENT EQUIPMENT



# THE SOURCE OF COMPONENT MATERIALS

## 元件材料来源

主要部件价值80%以上的元件材料来自世界著名厂商  
80% component materials of the main component value are from the famous factories in the world



# BUSINESS SERVICE FIELD

## 业务服务领域



### 1 膏霜生产线

Cream & paste production line

RO反渗透纯水机、真空均质乳化机、无菌储罐、烘干消毒机、膏体灌装机、输送工作台、喷码机、贴标机、铝箔封口机、收缩膜机

RO reverse osmosis pure water machine, vacuum homogeneous emulsifying machine, sterile storage tank, drying disinfection machine, paste filling machine, conveying workbench, ink jet printer, labeling machine, aluminum foil sealing machine, shrinkable film machine

RO反渗透纯水机、液洗均质搅拌锅、无菌储罐、烘干消毒机、液体灌装机、输送工作台、喷码机、贴标机、铝箔封口机、收缩膜机

RO reverse osmosis pure water machine, liquid washing homogeneous mixing pot, sterile storage tank, drying disinfection machine, liquid filling machine, conveying workbench, ink jet printer, labeling machine, aluminum foil sealing machine, shrinkable film machine

### 2 洗涤生产线

Washing production line



### 3 香水生产线

Perfume production line

RO反渗透纯水机、香水冷冻机、无菌储罐、贴标机、香水灌装机、输送工作台、锁盖机、喷码机、三维收缩膜机

RO reverse osmosis pure water machine, perfume refrigerator, sterile storage tank, labeling machine, perfume filling machine, conveying workbench, capping machine, ink jet printer, 3D shrinkable film machine



## 一站式服务 提供生产线全面解决方案

One-stop service  
Supply the complete solutions for the  
production lines

RO反渗透纯水机、液洗均质搅拌机、无菌储罐、全自动面膜灌装线、全自动包装机、输送工作台、喷码机、三维收缩膜机

RO reverse osmosis pure water machine, liquid washing homogeneous mixing pot, sterile storage tank, Fully automatic face filling machine, Fully automatic box packing machine, conveying workbench, ink jet printer, 3D shrinkable film machine

### 4 面膜生产线 Mask production line



### 5 彩妆生产线 Powder production line

粉类侧打机、压粉机、无菌储罐、粉类灌装线、输送工作台、喷码机、三维收缩膜机

Powder side hitting machine, powder press machine, sterile storage tank, powder filling machine, conveying workbench, ink jet printer, 3D shrinkable film machine

RO反渗透纯水机、真空均质乳化机、研磨机、无菌储罐、灌装封尾机、输送工作台、喷码机

RO reverse osmosis pure water machine, vacuum homogeneous emulsifying machine, grinding machine, sterile storage tank, filling sealing machine, conveying workbench, ink jet printer

### 6 牙膏生产线 Toothpaste production line





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# 真空乳化系统

VACUUM EMULSIFYING SYSTEM



## 基本概况 BASIC PROFILE

顾名思义真空乳化，是指物料在真空的状态下，利用高剪切乳化器快速均匀地将一个相或多个相分布致另一个连续相中，其利用机械带来的强劲动能，使物料在定转子狭窄的间隙中，每分钟承受几十万次的液力剪切。离心挤压撞击撕裂和湍流等综合作用，瞬间均匀地分散乳化，经过高频的循环往复，最终得到无气泡细腻及稳定的高品质产品。

As the name implies, vacuum emulsification refers to the materials rapidly and evenly distribute a phase or multi-phase to another continuous phase in the vacuum status. It lets the materials bear thousands of hydraulic shear in a minute in the narrow gap between the stator and rotor by using the strong kinetic energy from the machine. The impact and tear by centrifugal extrusion, turbulence and other comprehensive functions divide the emulsification evenly in a short time, after passing the high-frequency circular go and return, finally obtain the fine and steady high quality products without bubbles.



### 典型应用产品 Typical Applications

面部润肤用品、乳液、美体产品、滋养膏、抗衰老用品、遮瑕膏、紧致肌肤用品、手部护理产品、护肤产品。  
Facial moisturizers, emulsion, body beauty, nourishing cream, anti-aging products, concealer, compact skin products, hand care products, skin care products.



- 更多款式：平面布局可根据客户厂房要求私人订制，**提供单缸/双缸升降/立式**，并可提供实验室小型乳化机；
- 更多功能：支持手动操作，PLC人机界面操作，真空度最高可达-0.095MPa；
- 更多配套：可选用CIP/SIP系统及防差错系统，可完全确保产品的安全性；
- 更多选项：**均质分/下均质及外循环结构**，**搅拌可分单向/双向/蝶带搅拌**；
- 更多要求：配置要求分为标准配置和进口配置，比如变频器、电机、电器等。

- More types: plane layout can be customized by personal requirement according to the factories of customers, can supply the single tank/ double tank rise and fall/upright, and also can supply the small type of emulsifying machine for the labs;
- More functions: support the manual operation, PLC human-computer interface operation, the highest vacuum degree can be reached to -0.095MPa;
- More supporting: Can be selected the CIP/SIP system and error prevention system, which can completely make sure the security of the products;
- More options: The homogeneity can be divided into upper and under homogeneity and external circulation structure, the stir can be divided into one-way and two-way screwing stir;
- More requirements: configuration requirements can be divided into the standard configuration and imported configuration, such as the frequency converter, motor, electric appliance and so on.

混合罐 Mixed tank (L)	有效容量 Effective capacity (L)	罐内工作压力 Working pressure (bar)	罐内最高温度 Temperature (°C)	搅拌功率 Stirring power (KW)	乳化功率 Emulsification power(KW)	模式 Mode
65	50	-1 to 2.5	150	0.75	4	升降 Rise and fall
130	100	-1 to 2.5	150	1.5	4	升降 Rise and fall
260	200	-1 to 2.5	150	2.2	5.5	升降 Rise and fall
390	300	-1 to 2.5	150	2.2	7.5	升降 Rise and fall
650	500	-1 to 2.5	150	3	7.5	立式升降 Upright Rise and fall
1350	1000	-1 to 2.5	150	4	15	立式 Upright
2600	2000	-1 to 2.5	150	7.5	30	立式 Upright

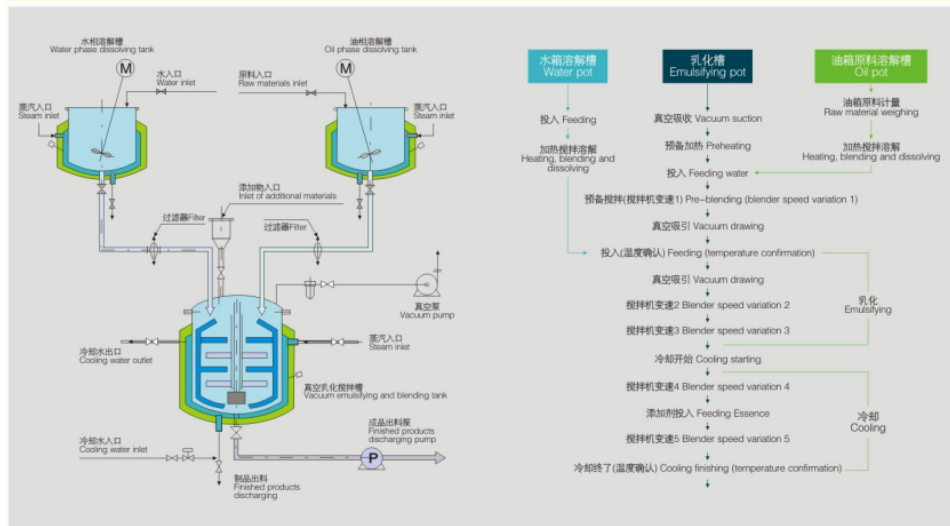


## 工艺说明 PROCESS DESCRIPTION

基于客户提供的URS或其他类似工艺描述文件，我们可以进行工艺流程图PFD的设计，包括对生产工艺、产能计算、单元操作等；PFD完成后，我们将设计PID图，对工艺、仪表和公用工程进行更详细的描述；同时，也会提出工艺生产系统中的工艺设备和公用设备的技术规格书。与此同时，在整个工艺设计的过程中，我们将进行多次的审核，来确保设计符合客户URS的要求。

On the basis of the URS and other described documents with the similar technology, we can carry out the design of technical flow chart PFD, which includes the operations of production technology, capacity calculation, unit and others. After the PFD is completed, we will design the PID drawing to carry out more detailed description of the technology, instrument and public engineering; at the same time, the technical specifications of the technical equipments and public equipments in the technical production system. In the meanwhile, we will carry out the repeated audit to guarantee the designs are accorded with the URS requirements of the customers in the whole technical design process.

真空乳化机工艺流程 Flow chart of vacuum emulsifying mixer

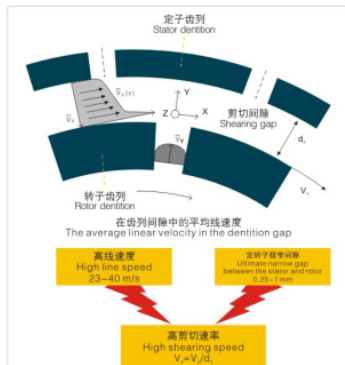




## 优势说明 ADVANTAGES

- 整体人性化的防水平台布局，操作方便，美观大方；
- 不锈钢卫生阀门管件，整个系统符合GMPC规范；
- 卫生级各式搅拌方式，方便拆卸维护及保养；
- 各式乳化系统可根据客户要求定制，分散均匀不结块，机械密封安全可靠；
- HMI自动操作系统，透明多样化全新控制元件；
- 产品生产节约更多能源及生产时间，充分提高生产效率；
- 可配合CIP/SIP系统，降低水电等耗能；
- 本产品用途广泛，可用于多种产品的生产加工。

- Humanized overall layout of water-proof platform, convenient operation and nice appearance;
- Stainless steel healthy valve pipe fittings, the whole system is accorded with GMPC specifications;
- All types of healthy mixing ways are easy to remove and maintain;
- All types of emulsifying systems can be customized by the requirements of customers, with even division, safe and reliable mechanical seal;
- HMI/M automatic operating system, transparent, various and brand-new controlled components;
- The product production can save more energy and production time, which can completely improve the production efficiency;
- Can be coordinated the CIP/SIP system to reduce the water, electricity and other energy consumption;
- This kind of product has wide usage, which can be used for the production and processing of all kinds of products.





## 配套模块 配料工作站 SUPPORTING MODULES INGREDIENTS WORKSTATION

传统的配料方法，给管理层及车间生产带来很多不便，现我们开发的系统充分结合各部门数据同步化，充分实现配料过程的跟踪、提醒以及执行准确，从而加强质量控制、降低物料损耗，实现节能环保。

- 配料工作站主要功能
- 电子记录和电子签名
- 配料称重
- 原料赋码
- 手工/自动称重
- 批次匹配
- 文档记录
- 批次绑定
- 原料在线混合配料
- 条码识别及追溯
- 原料配方数据在线实时上传

The traditional compounding methods bring a lot of inconvenient to the management and workshops, now our developed system fully combines the data synchronization in all departments, which completely realizes the tracking, warning and correct execution in the compounding process, so that can strengthen the quality control, reduce the material loss, realize the energy conservation and environmental protection.

- Main functions of ingredients workstation:
- Electronic records and electronic signatures
- Ingredients weigh
- Raw material tagger
- Manual/automatic weigh
- Batch matching
- Document record
- Batch binding
- Online mixing the ingredients of raw materials
- Identification and tracking of bar codes
- Online and real-time unload the raw materials formula data

### 配料管理系统的优势

- 无纸化生产管理
- 配方保密性安全性控制
- 精确的库存管理与成本核算
- 高效快捷的生产总结
- 现场操作简单无误

### Advantages of the ingredients management system

- Paperless production management
- Privacy and security control of the formula
- Accurate inventory management and cost accounting
- High efficient and speedily production conclusion
- Easy and correct spot operation



在线计量配料系统  
Online measurement batching system



扫码称重系统  
Code weighing system





# 配套模块 智能生产工作站

## SUPPORTING MODULES INTELLIGENT PRODUCTION WORKSTATION



我们的机器和设备可以扩展安装电子控制系统以适合您的特殊要求。TOPSAIL拥有不同的自动化水平：从简单的对混合机器开关设置，到对生产线的全部环节的控制和管理。全自动菜单管理和全批量记录。我们的产品全部采用用户友好的界面设计，这使得我们的用户能够很快熟悉操作我们的机器。

主要优势如下：

- 通过触摸屏进行手动操作及自动控制
- 限制设置和监控
- 报警管理包含存储历史数据
- 安全锁
- 趋势功能
- 语言选择
- 自动程序保存及下载
- 历史报警时间查询及分类
- 远程界面设备对接

Our machines and devices can be extended and installed the electronic control system which is suitable for your special requirements. TOPSAIL has the different automatic levels from the simple switch settings for the mixing machines to the control and management of the whole links for the production lines, automatic menu management and whole batch records. Our products are all adopted by the friendly interfacial design of the users, which is good for the users can familiar with the operation of our machines quickly.

The main advantages as follows:

- Carry out the manual operation and automatic control by touch screen
- Restrict the settings and monitoring
- Warning management includes the historical data of storage
- Safety lock
- The trend functions
- Language selection
- The preservation and downloading of automatic procedures
- The query and classification of historical warning time
- The docking of remote interface of equipments





## 配套模块 加热/冷却工作站 SUPPORTING MODULES HEATING/COOLING WORKSTATION

除了标准的机器以外，我们也可以提供个性化程序解决方案，以满足您个性化的其他要求。我们在为客户生产不同规格要求的机器和设备中，以及我们众多的发明和改进为我们积累了长期的经验，这些都足以成为我们之间成功合作的基础。

您的处理要求和处理目标将会是我们设计工程师的首要任务。我们会同您一起来确定开发机器和设备的主要标准，并且满足客户的特殊要求，比如一个适合日化业客户的设计或者设施的加热冷却性能。

我们会在TOPSAIL的中试车间，在产品的开发阶段就对需要达到的混合程度，质量和成品所应具有的特性进行实验。我们很乐意为您的产品生产流程的优化提供帮助，以减少原材料，能源和时间的损失。在交钥匙工程中，我们会处理好工程方面的基础和细节，并与次级供应商配合，包括测试和员工培训。

Except the standard machines, we also can supply the solutions of individual procedures to meet your other individual requirements. We supply the machines and devices with different specifications to meet the customers' requirements, and many our inventions and improvements accumulate the long-term experience for us, which are enough to be the base of the successful cooperation between ours.

Your processing demands and processing targets will be the primary task for our designed engineers. We will confirm the main standards of the developed machines and devices with you, moreover, meet the special requirements of customers, such as a heating/cooling performance of design or facility is suitable for the daily chemical customers.

In the semi-works of TOPSAIL and in the developed stage of products, we will carry out the tests for the original characteristics of the quality and finished products which are needed to reach to the mixed degree. We will pressure to provide the helps for the optimization of production process of your products, so as to reduce the raw materials, energy and time loss. In the turnkey project, we will handle well the base and details of engineering, and cooperate with the secondary suppliers, including the tests and staff training.



板框式换热器  
Plate and frame type heat exchanger



箱式冷冻机组  
Box type refrigerating units



电加热蒸汽锅炉  
Electric heating steam boiler



# 配套模块 转料工作站 SUPPORTING MODULES TRANSFER WORKSTATION



为了各种物料转料方便卫生，满足半自动化及全自动化的应用，减少各种复杂的管道工艺，我们采用了多样化的转料方法及模块运用。

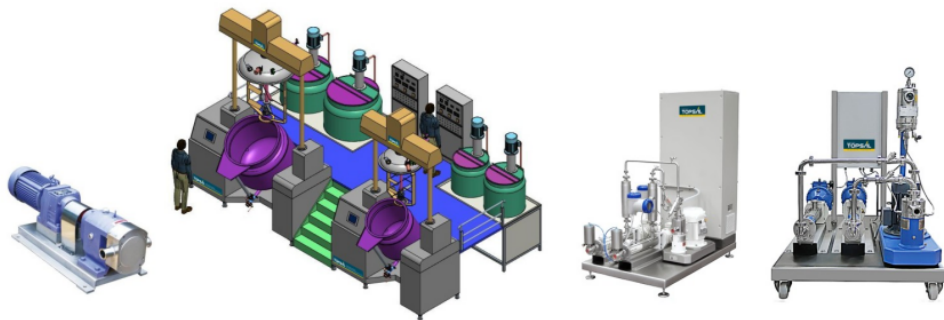
分别有以下几种

- 在线均质计量出料
- 卫生级转子泵出料
- 多路阀阵连接方式
- 多路转换板连接方式
- 罐体自动倾倒及正压出料

In order to all kinds of materials have the convenient and healthy transfer meet the semi-automatic and complete automatic applications, and reduce all types of complex pipeline technology, we adopt the various transfer material methods and module applications.

They are respectively divided into the following types:

- Online homogeneous measuring discharge
- Healthy rotor pump discharge
- Connecting ways of multi-way valve array
- Connecting ways of multi-way converter board
- Automatic pour and positive pressure discharge of tank





# 配套模块

## 智能清洗工作站

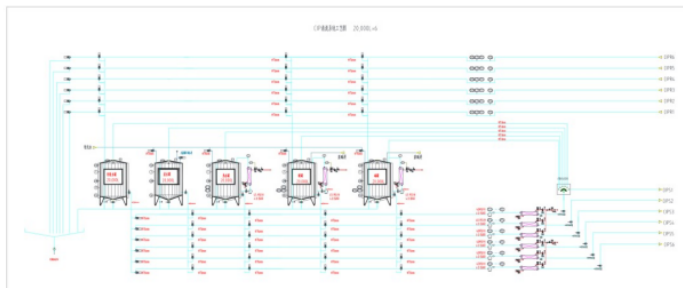
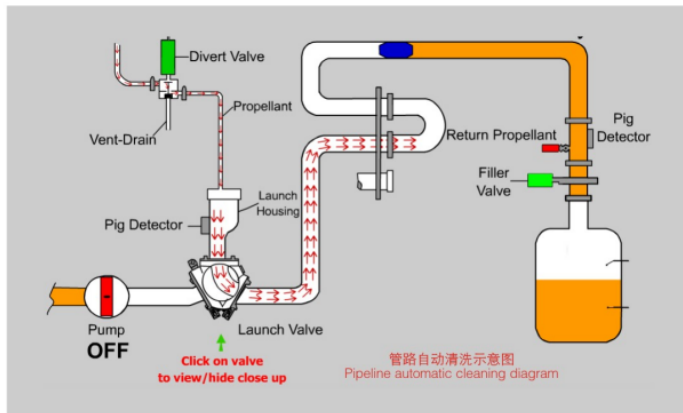
### SUPPORTING MODULES

### INTELLIGENT CLEAN WORKSTATION



CIP清洗系统对生产线设备及管路进行在线清洗，能够实现温度、浓度、流量、压力、液位、时间等在线自动检测，可以和清洗目标进行数据通讯，通过人机界面实现清洗程序的灵活选择。具有生产数据储存或通过打印机打印成生产报表的功能。能够实现酸碱循环利用，水资源的回收利用及降低热能耗量。整个系统运行稳定，安全可靠，降低生产成本。

CIP clean system carries out the online clean for the equipments of production line and pipeline, it can realize the online automatic detection of the temperature, concentration, flow, pressure, liquid level, time and others, also can carry out the data communication with the clean target, realize the flexible selection of the clean procedure by the human-computer interface. It has the functions of storing the production data and generating the production statement printed by the printer. It can realize the cyclic utilization of acid and alkali, water resource recycle and reduce the thermal energy consumption. The whole system runs steadily, safely and reliably, which can reduce the production costs.





配套模块  
周边系统服务  
SUPPORTING MODULES  
SURROUNDING SYSTEM SERVICE



全自动水洗瓶机  
Fully automatic washing bottle washing machine



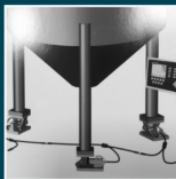
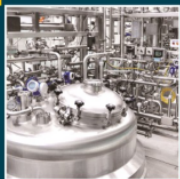
空气洗瓶机  
Air bottle washing machine



热风循环烘箱  
Hot air circulation drying machine



2

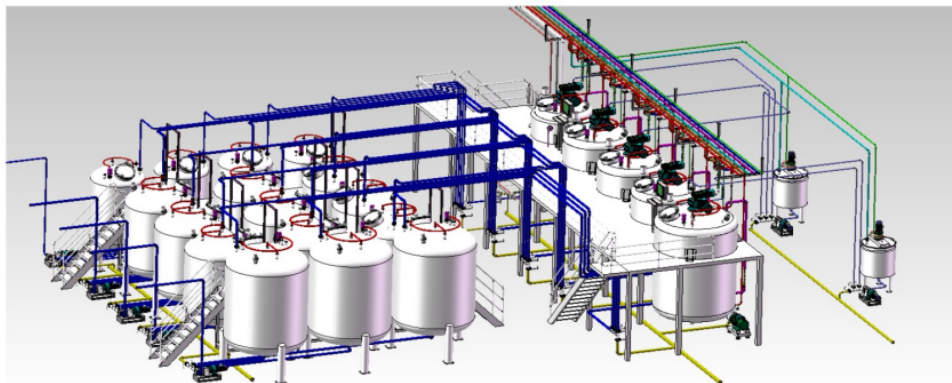


## 液洗搅拌系统

LIQUID WASHING MIXING SYSTEM



## 基本概况 BASIC OVERVIEW



- 更多功能：支持手动操作，PLC人机界面操作；
- 更多配套：可选用CIP/SIP系统及AES在线稀释系统，可完全确保产品的安全性；
- 更多选项：均质分内循环均质及外循环结构，搅拌可分单向/双向/螺带搅拌；
- 更多要求：配置要求分为标准配置和进口配置，比如变频器，电机，电器等。

- More functions: support the manual operation, PLC human-computer interface operation;
- More supporting: Can be selected the CIP/SIP system and AES online dilution system, which can completely make sure the security of the products;
- More options: The homogeneity can be divided into upper and under homogeneity and external circulation structure, the stir can be divided into one-way and two-way screwing stir;
- More requirements: configuration requirements can be divided into the standard configuration and imported configuration, such as the frequency converter, motor, electric appliance and so on.

### 典型应用产品 Typical Applications

爽肤水、面膜、人工晒黑产品、防晒产品、洗发水、沐浴露、护发素、油膏、洗衣液、洗手液、柔顺剂等  
Toner, mask, artificial tanning products, sunscreen products, shampoo, shower gel, hair conditioner, ointment, detergent, hand sanitizer, softener and so on.

容量 Capacity (L)	搅拌功率 mixing power (kw)	搅拌转速 Mixing Speed (r/min)	均质功率 Homogenizing power(kw)	均质转速 Homogenizing speed/(min)	加热方式 Heating method
500	2.2	0-65	4-5.5	3000	蒸汽或电加热 (可选择)
1000	4	0-65	5.5-7.5	3000	
2000	5.5	0-53	11-18.5	3000	
3000	7.5	0-53	22	3000	
6000	15	0-42	30	3000	
10000	15	0-42	30	3000	
20000	22	0-35	2×22	3000	

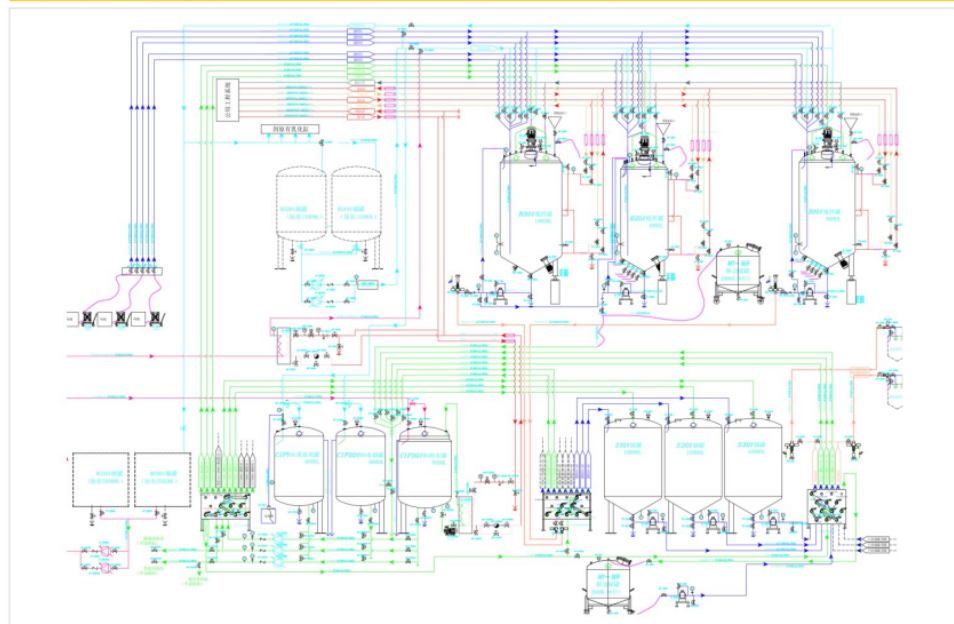


## 工艺说明 TECHNICAL EXPLANATION

原料自动供给+自动配料+自动转料+全自动CIP多路清洗

Raw materials with automatic supply + automatic matching + automatic transfer + fully automatic CIP multi-way clean

典型的全自动洗涤生产线工艺流程图 Flow chart of the typical fully automatic washing production line technology

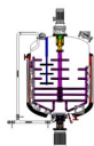




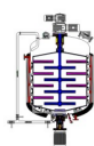
## 优势说明 ADVANTAGES

- 系统能根据产品工艺需求结合不同的混合技术进行优化设计
- 系统可自动快速降温及加热，大大节省能源消耗
- 系统能自动、快捷、充分、均匀的稀释粉体物料
- 通过优化的输送设计，能大大降低车间粉尘污染
- 优化的自控系统可节省人工成本并提高同一产品的一致性
- 用途广泛，可用于多种产品的生产加工
- 采用在线稀释方式，避免大量起泡，提高投料速度
- 批次生产所需时间短，用水量减少
- 标准化设计，整个管道及系统更加洁净
- 生产可靠、稳定；设备维护更便捷
- 整套系统符合GMP规范

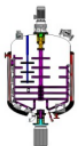
- The system can combine the different mixing technology to carry out the optimized design according to the technical requirements of products.
- The system can automatically cooling and heating rapidly to save the energy greatly.
- The system can automatically, quickly, completely and evenly dilute the powder materials.
- It can greatly reduce the powder pollution in the workshops by the optimized conveyor design.
- The optimized self-controlled system can save the human costs and enhance the consistency of the same product.
- It has a wide usage, which can be used for the production and processing of all kinds of products.
- It is adopted by the online dilution ways, which can avoid the mass bubbles and enhance the feeding speed.
- The required time of the batched production is short, water consumption is smaller.
- Standard design, the whole pipeline and system are cleaner.
- Reliable and steady production, more convenient maintenance of equipments
- The whole system is accorded with the GMP specifications.



单程拌中循环  
Single Way Mixing & External Circulation



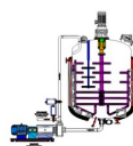
双程拌中循环  
Double Way Mixing & External Circulation



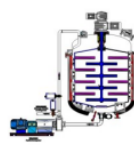
单程拌内循环  
Single Way Mixing & Internal Circulation



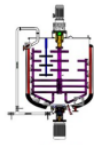
双程拌内循环  
Double Way Mixing & Internal Circulation



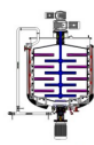
单程拌中循环均质机  
Single Way Mixing & External Homogenizer



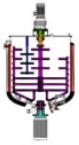
双程拌中循环均质机  
Double Way Mixing & External Homogenizer



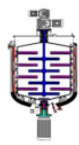
单程拌中循环  
Single Way Mixing & External Circulation



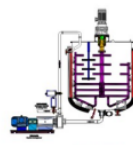
双程拌中循环  
Double Way Mixing & External Circulation



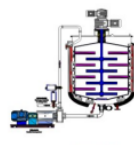
单程拌内循环  
Single Way Mixing & Internal Circulation



双程拌内循环  
Double Way Mixing & Internal Circulation



单程拌中循环均质机  
Single Way Mixing & External Homogenizer



双程拌中循环均质机  
Double Way Mixing & External Homogenizer



# 配套模块

## AES在线稀释系统

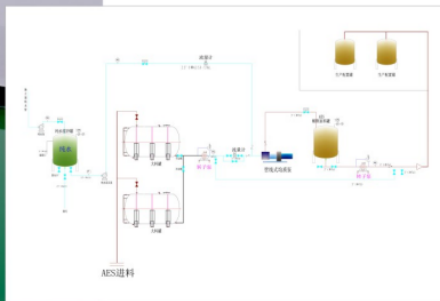
### SUPPORTING MODULES

### AES ONLINE DILUTION SYSTEM



通赛自动化开发的在线AES稀释系统，为高效生产缩短投料时间，对于浓度70%的AES进行提前稀释至25%左右，最高精度可达 $\pm 0.5\%$ ，完全可根据你所需要的浓度进行自动调节，主要工作原理：设定一定量的纯水，通过比例设定一定量的高浓度AES，经过我们的PLC集成自动系统混合后即可及时投入生产。

In-line AES dilution system developed by TOPSAIL Automation, which shortens the feeding time for efficient production, is diluted to about 25% for AES with a concentration of 70%, and the maximum accuracy is  $\pm 0.5\%$ , which can be adjusted automatically according to the concentration you need. The main working principle: set a certain amount of pure water, by setting a certain amount of high concentration of AES, through our PLC integrated automatic system can be put into production after mixing.

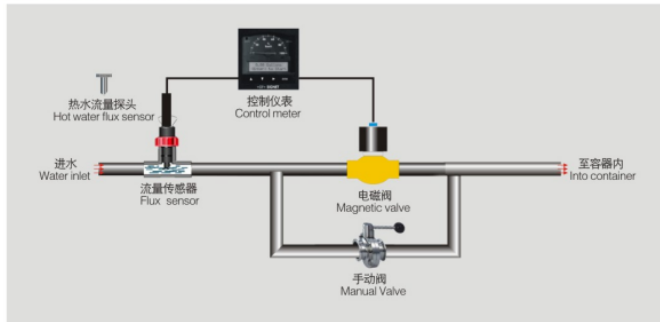




配套模块  
称重系统 & 水批量计量系统  
SUPPORTING MODULES  
WEIGH SYSTEM AND WATER BATCH MEASURING SYSTEM



水计量解决方案 Water measuring solutions



可以任意设定一个数值的量并能控制这一个数值的量;  
全部组件选用美国+GF+品牌, 原装进口配件;  
精确度最高可达  $\pm 3\%$ 。

Can be freely set up a value amount and can control this value amount;  
All the components are selected by the American+GF brands, original imported accessories;  
The precision can be reached to 3%。





# 3



## 水处理系统 WATER TREATMENT SYSTEM



## 基本概况 BASIC PROFILE

反渗透技术是近几年来才在我国发展起来的一项现代高新技术。反渗透就是对溶液施加一个大于渗透压的压力，使水透过特制的半透膜，从溶液中分离出来。因为这个过程和渗透现象相反，所以称为反渗透。按各种物料的不同渗透压，就可以对某种溶液使用大于渗透压的反渗透方法，达到对溶液进行分离、提取、纯化和浓缩的目的。反渗透装置，主要是分离溶液中的离子范围，它无需加热，更没有相变过程，因此比传统的方法能耗低。

Reverse osmosis technology is a modern high and new technology which has developed in China in recent years. Reverse osmosis refers to put a pressure over osmotic pressure on the solution, let the water through the special semi-transparent film, and separated from the solution. Because this process is opposite to osmotic phenomenon, so it is called the reverse osmosis. According to the different osmotic pressure of all kinds of materials, can use the reverse osmosis method larger than osmotic pressure for one solution, so that can reach the purpose of carrying out the separation, extraction, purification and concentration for the solution. Reverse osmosis devices are mainly used for separating the ion range in the solution, they do not need to heating, and do not have the phase transformation process, so they save the energy compared with the traditional methods.



- 更多款式：平面布局可根据客户厂房要求私人订制，选型可根据用户产品要求定制，完全符合国家针对产品生产用水使用要求；
- 更多功能：支持手动操作，PLC人机界面操作，并可实现无人化操作；
- 更多配套：预处理可选用自动头/多通阀控制正反洗操作，可延长膜的使用寿命；
- 更多选项：**一级/二级反渗透，EDI高纯水装置，灭菌装置，包压装置，储水设备**；
- 更多要求：整体可选用不锈钢/玻璃钢材质，膜可选用高低压陶氏/海德伦等品牌。

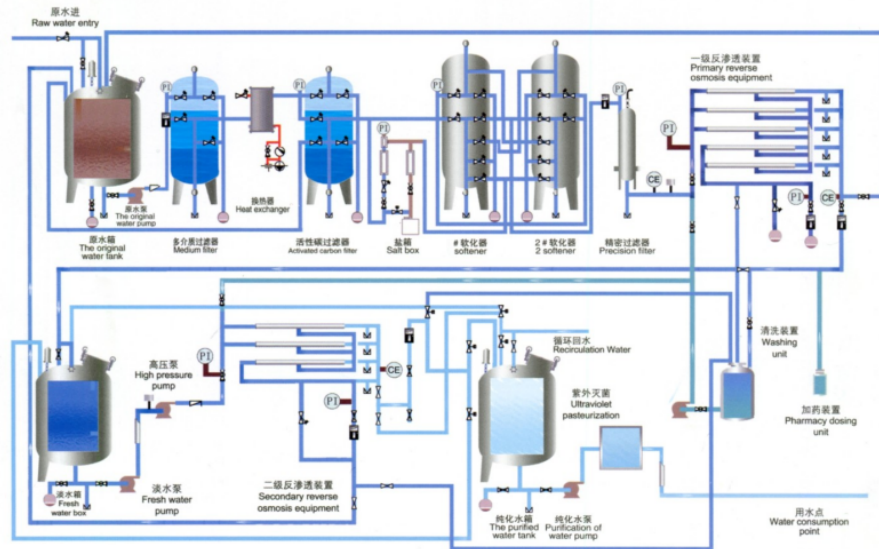
- More types: The plane layout can be customized for the personal requirements according to the factories of customers, can customize the selecting type according to the requirements of the users' products, which fully accord with the using requirements of production water by the state;
- More functions: Support the manual operation, PLC human-computer interface operation, and can realize the unmanned operation;
- More supporting: Pre-treatment can be selected the positive and negative washing operation by automatic head/multiported valve, which can extend the using life of film;
- More options: Primary/secondary osmosis, EDI highly purified water device, sterilization device, constant voltage equipment and storage equipment;
- More requirements: It can be overall selected the stainless steel material, and the film can be chosen the high and low pressure of Dow/Hedren and other brands.

产水量 (T/H) Capacity	电功率 (KW) Power	回收率 (%) Recovery	一级出水电导率 ( $\mu\text{S/cm}$ ) One Stage Finished Water Conductivity	二级出水电导率 ( $\mu\text{S/cm}$ ) Two Stage Finished Water Conductivity	EDI出水电导率 ( $\mu\text{S/cm}$ ) EDI System Finished Water Conductivity	原水电导率 ( $\mu\text{S/cm}$ ) Raw Water Conductivity
0.5	0.75	95-98	≤10	2-3	≤0.5	≤300
1.0	2.2	95-98				
2.0	4.0	95-98				
3.0	5.5	95-98				
5.0	7.5	95-98				
6.0	7.5	95-98				
10.0	11	95-98				
20.0	15	95-98				



# 工艺说明 TECHNICAL EXPLANATION

纯化水制备系统工艺流程图二级反渗透装置 Secondary reverse osmosis device of purified water preparation system technical flow chart



球阀 Ball valve	手动隔膜阀 Manual diaphragm valve	气动隔膜阀 Pneumatic diaphragm valve	气动角座阀 Pneumatic angle seat valve
疏水阀 Drain valve	单向阀 A one-way valve	取样阀 The sampling valve	压力表 Pressure gauge
压力开关 Pressure switch	电导仪 Conductivity meter	流量计 Flow meter	排水 Draining



## 优势说明 ADVANTAGES

- 反渗透装置体积小，操作简单，适用范围比较广；
- 用反渗透装置，处理工业用水，不耗用大量酸碱，无二次污染，它的运行费用也比较低；
- 反渗透脱盐率 $\geq 99\%$ ，整机脱盐率 $\geq 97\%$ ，能够有效去除98%的有机物，胶体，细菌等；
- 产水电导率好，一级为 $\leq 10 \mu\text{ s/cm}$ ，二级为 $2-3 \mu\text{ s/cm}$ 左右，EDI $\leq 0.5 \mu\text{ s/cm}$ (原水 $\leq 300 \mu\text{ s/cm}$ )
- 操作自动化程度高，无需人工看守，水满自动停机，无水自动开机，自动空气定时冲洗前置滤料，IC微电脑控制器自动冲洗反渗透膜，原水、纯水电导率实现在线显示；
- 进口部件高达90%以上；

- The reverse osmosis device is small, with simple operation, wide range of application;
- Deal with the industrial water by reverse osmosis device, not only can save the acid and alkali, without the secondary pollution, but also has lower operating costs;
- Salt rejection of reverse osmosis  $\geq 99\%$ , Salt rejection of the whole machine  $\geq 97\%$ , it can remove 98% organic matter, colloid, bacteria and others effectively;
- Good water conductivity, primary rate  $\leq 10 \mu\text{ s/cm}$ , secondary rate around  $2-3 \mu\text{ s/cm}$ , EDI  $\leq 0.5 \mu\text{ s/cm}$  (raw water  $\leq 300 \mu\text{ s/cm}$ );
- High degree of automatic operation, without artificial guards, it can automatically stop when water is full, and automatically power on when without water, wash regularly the front transition by automatic air, automatically washing the reverse osmosis film by IC microcomputer controller, realize the online display by raw water and purified water conductivity;
- The imported components more than 90%;



臭氧发生器 Ozone Generator



过流式紫外线杀菌器  
Over-current Type Ultraviolet Sterilizer





# 4



## 灌装系统 FILLING SYSTEM



## 基本概况 BASIC PROFILE



通赛自动化为适应市场高效生产，降低人力成本，打造了各种高端全自动灌装生产线。广泛应用于膏霜类、唇彩类、香水类、日化类等产品的成套灌装设备。主要分为水乳线全自动灌装、睫毛膏全自动灌装、液洗类全自动灌装、软管类全自动灌装等，以及自动理瓶、自动上盖、自动旋盖等配套设备。

In order to adapt the market high efficient production and reduce the human cost, TOPSAIL Automation creates all kinds of high-end fully automatic filling production line, which widely use in paste and cream class, lip gloss class, perfume class, daily chemicals and other complete filling devices. They are classified of lotion fully automatic filling, mascara cream fully automatic filling, liquid washing fully automatic filling, flexible pipe fully automatic filling and others, and automatically clear up the bottles, cover, rotating and other supporting devices.





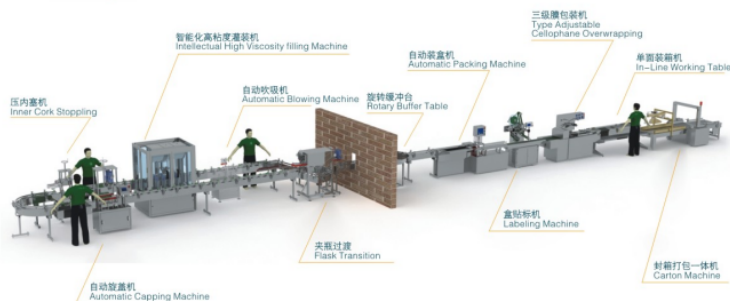
# 全自动水乳灌装成套设备

## FULLY AUTOMATIC LOTION FILLING COMPLETE DEVICES

- 水、乳、膏通用
- 自动填充，补料，打内塞，旋盖，容器排出
- 直线式运作，夹具自动循环使用
- 夹具可调，换瓶型只需简单地调节夹具即可灌装不同瓶型
- 伺服电机控制潜入跟随式灌装，防止灌装时物料外喷，起泡
- 伺服电机结合转阀，活塞定量灌装，控制方便，调节简单，灌装量精度高，适合灌装物料更广
- 旋盖伺服升降，机械手夹紧旋盖，旋盖大小可调，旋盖扭力可调，不损伤瓶盖，旋盖成功率高
- 机械手自动排出成品，方便可靠
- 配有移动轮，移动方便整机采用卫生级全不锈钢，铝型材制造，清洁、卫生
- 任何人都可以在短时间熟练操作
- 人机界面设有配方功能，更换产品只需你选择需要的配方即可实现，方便的快捷
- 适合日产量20000-30000



- It is suitable for toner, lotion and cream.
- Automatically filling, feeding, burrowing the inner plug, rotating the cover and discharging the container.
- Straight line type operation, the clamp can be automatically convoluted and used circularly.
- The clamp can be adjusted and changed the bottle types, it can fill the different bottle types by the simple adjustment.
- Servo motor control sneaks into the accompanying filling to avoid the materials spray and blistering when filling.
- Servo motor combines the rotary valve and piston to quantitatively filling, which has easy control, simple adjustment, high precision of filling volume, it is suitable for the wide range of filling materials.
- Rotating servo rise and fall, tightly clip the rotating cover by mechanical hands, the size of rotating cover can be adjusted, the torsion of rotating cover can be adjusted, the bottle cover is not damaged, with high success rate of rotating cover.
- The finished products are discharged automatically by the mechanical hands, it is convenient and reliable.
- The mobile wheel is supported, which has the convenient movement, the overall machine is adopted by the healthy fully stainless steel and aluminium, which guarantee the clean and health.
- Everybody can have the familiar operation in a short time.
- The formula function is set in the human-computer interface, realize changing the product by selecting the formula, it is convenient and quick.
- It is suitable for the daily output of 20000-30000.





# 全自动液洗类灌装成套设备

## FULLY AUTOMATIC LIQUID WASHING FILLING COMPLETE DEVICES

### 技术参数 Technical Parameters

- 灌装形式：伺服驱动活塞式灌装；
- 灌装速度：1800-2000瓶/小时(400ML瓶)；
- 灌装精度： $\pm 0.5\%$ (40-400ML)；
- 材料：灌装机架采用304#不锈钢；
- 程序控制：PLC (Delta)+触摸屏(Delta)；
- 灌装嘴及料槽等接触液体部位材料：304#不锈钢，PVC及POM；
- 可兼容一定范围不同形状和规格的瓶子具体要把瓶子放在机器上测试通过为准。

- Filling forms: Servo driving piston filling
- Filling speed: 1800-2000 bottle/h (400ML/bottle)
- Filling precision:  $\pm 0.5\%$ (40-400ML);
- Materials: The filling machine frame is adopted by 304# stainless steel;
- Process control: PLC(Delta)+touch screen (Delta);
- The material of filling mouth, material tank and other parts which touch the liquid: 304# stainless steel, PVC and POM;
- It has the compatibility of the bottles with different shapes and specifications in a certain range, it takes the standard of testing the bottle on the machine.





## 全自动软管类灌装封尾机

### FULLY AUTOMATIC FLEXIBLE PIPE FILLING SEALING MACHINE

- 纯机械式结构，设计简洁，维修保养方便
- 高品质的部件，为了保证质量部分核心零件从国外进口
- 加热头的特殊设计可适应直径偏差  $\pm 0.2\text{mm}$  的软管
- 加热头的更换方便快捷
- 灌装头的独特设计可广泛适用于不同的物料
- 整个灌装系统的拆卸消毒非常方便
- 灌装头的独特设计广泛适用于各种粘度范围的物料
- 转产方便快捷，只需10分钟左右

- Pure mechanical structure with the simple design and convenient maintenance.
- High quality components to guarantee the core parts of the quality part are imported from abroad.
- The special design of heating head can be suitable for the flexible pipe with the diameter deviation  $\pm 0.2\text{mm}$ .
- The replacement of heating head is convenient and speedy.
- The special design of the filling head can be widely suitable for the different materials.
- The disassembly and disinfection of the whole filling system are very convenient.
- The special design of the filling head can be widely suitable for the materials with kinds of viscosity range.
- Change the line of production is convenient and speedy, which only needs around 10 minutes.

#### 技术参数 Technical Parameters

生产速度：塑料软管/复合软管 2500-3000支/每小时  
料桶容量：50L  
充填范围：5-300克/支  
灌装精度： $\leq \pm 1\%$   
管径： $\Phi 5-30\text{mm}$   
配套电机：380V/50Hz 1.1kW  
机器尺寸：2000 x 750 x 1800mm  
机器重量：800kg

The production speed of plastic flexible pipe/  
composite hose: 2500-3000pcs/hour.  
Tank capacity: 50L.  
Filling range: 5-300 grams/pcs  
Filling precision:  $\leq \pm 1\%$   
Pipe diameter:  $\Phi 5-30\text{mm}$   
Supporting motor: 380V/50Hz 1.1 kW  
Machine dimension: 2000 x 750 x 1800mm  
Machine weight: 800kg



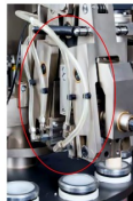
灌装系统  
Filling system



整个切尾系统  
The whole cutting-tail system



整个加热系统  
The entire heating system



整个夹尾系统  
The whole clipping system



## 其他灌装类设备 OTHER FILLING DEVICES



睫毛膏全自动灌装机  
Mascara cream fully automatic filling machine



立式气动恒温膏体灌装机  
Vertical pneumatic thermostat  
paste filling machine



立式气动膏体灌装机  
Vertical pneumatic paste  
filling machine



睫毛膏灌装机  
Mascara cream filling machine



桌上旋盖机  
Desk screw cap machine



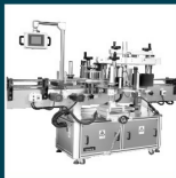
卧式自吸灌装机  
Horizontal self-priming filling machine



半自动单头液体灌装机  
Semi-automatic single head  
liquid filling machine



5



## 配套系统 SUPPORTING SYSTEM



# 香水成套设备 PERFUME COMPLETE DEVICES



本产品材质均采用优质304不锈钢或316L不锈钢制造，用美国进口气动隔膜泵，作为压力源，进行正压过滤。连接管道采用卫生级抛光管件，均采用快装式连接形式，方便拆卸和清洗。配套使用聚丙烯稀微孔过滤膜，广泛用于化妆品行业、科研部门、医院、实验室等单位对少量液体的澄清和除菌过滤。

The product material is adopted by the high quality 304 stainless steel or 316L stainless steel, the pneumatic diaphragm pump imported from UK as the pressure source, which is used for the positive filter. The connecting pipeline is adopted by the healthy polishing pipe fitting by the ready-package micro porous filtering membrane, which can be widely used for the clarification sterilization and filtration of a small amount of liquid in the cosmetics industry, scientific research departments, hospitals, labs and other units.

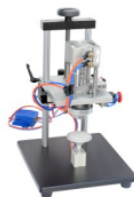
容量 Capacity	200L	300L	500L	1000L
冷冻功率 Cooling power	3P	5P	10P	15P
冷冻容量 Cooling capacity	200 L	300L	500L	1000L
过滤精度 Filtering precision	0.2 μm	0.2 μm	0.2 μm	0.2 μm



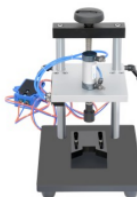
多头香水灌装机  
Multi-heads perfume  
filling machine



四头香水自动灌装机  
Four heads perfume  
automatic filling machine



轧盖机  
Capping machine



压盖机  
Capping machine



可移动式二级过滤装置  
Movable secondary  
filtering devices



滤芯  
Filter element



## 贴标机系列 LABELING MACHINE SERIES



全自动圆扁瓶贴标机  
Fully automatic round and flat labeling machine



全自动平面贴标机  
Fully automatic plane labeling machine



全自动高速圆瓶贴标机(定位贴)  
Fully automatic high speed round bottle labeling machine  
(Positioning labels)



半自动圆瓶贴标机  
Semi-automatic round bottle labeling machine



半自动扁瓶贴标机  
Semi-automatic flat bottle labeling machine

### 性能参数 Performances Parameters

- 全进口的微电脑控制系统;
- 超大型触摸屏, 操作简单;
- 采用伺服电机, 速度加快时贴标精度提高, 机器性能更稳定;
- 100%组以上贴标参数记忆, 可快速换样生产;
- 整机为高级不锈钢与铝合金经阳极处理组成, 永不生锈, 符合GMP标准。
- Fully imported microcomputer control system;
- Extra Large touch screen, easy operation;
- Servo motor is adopted, and the labeling precision is enhanced when the speed is increased. The machine performance is more stable;
- More than 100 groups of labeling parameter memories can realize fast sample changing;
- The whole machine is made of high class stainless steel and aluminum alloy using anodizing treatment. It will never rust, which conforms to GMP requirements.

贴标速度 36米/分 Labeling speed: 36 meters/ min	扁瓶双面贴, 圆瓶贴标 double-sided for glass bottle, round bottle labeling
适用纸卷内径 Suitable for the paper roll inner diameter	Φ70mm
最大纸卷外径 Max paper roll outer diameter	Φ370mm
标准标签高度 Standard label height	10~190mm
外观尺寸(长×宽×高) External dimension(L×W×H)	3000mm×1500mm×1750mm



## 输送带系列 CONVEYER BELT SERIES



### 性能特点 Performances Features

台面一次整体折压成型强度好，清洁无死角。进口变频调速，降低了噪音，使皮带走的更平稳，减速机寿命更长。

The desk has the good strength of overall fold forming, clean and no dead angle. Imported frequency control, reduce the noise, to guarantee the belt walks steadily, and the reducer has longer life.

带宽(mm) Belt width	操作平台宽(mm) × 2 Width of operation platform × 2	线速度(m/min) Linear speed	高度(mm) Height
200	200	4-20	700-750
250	250	4-20	700-750
300	300	4-20	700-750

注：输送带长度、高度和带宽可根据用户要求订做。  
Notes: the length, width and belt width of conveyor belt can be customized by the requirements of the users.



皮带输送机  
Belt conveyors



链式输送带  
Chain conveyor



滚筒式输送机  
Roller conveyor



夹持式流水线  
Gripping-type conveyor



# 全自动装盒机

## FULLY AUTOMATIC BOX PACKING MACHINE

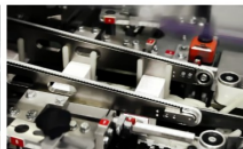
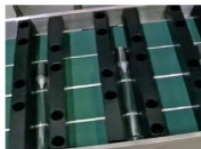


### 性能参数

- 设备转产快捷(换规格时间15分钟左右);
- 充分保护纸盒表面;
- 对纸盒的适应性广: 适应纸盒大小范围广; 不同的插舌方式(卡扣; 摩擦扣); 不同方向插舌的纸盒(水平式插舌或反向插舌); 不同克重的白卡纸;
- 设备占地面积小;
- 设备实际使用成本低。

### Performances Parameters

- Speedy transferring of equipment ( specified time is around 15 minutes);
- Fully protect the surface of paper box;
- Wide application of the paper box: suitable for the wide range of paper box size, different inserting tongue methods (snap-on button, frictional button); the paper box with different inserting tongue (horizontal inserting tongue or opposite inserting tongue); different grams of white card;
- The floor area of equipment is small;
- Actual using cost of the equipment is low;





## 其他辅助设备 OTHER AUXILIARY EQUIPMENTS



多功能喷码机  
Multi-functional ink-jet printer



唇膏冷却隧道机  
Lipstick cooling tunnel machine



V型混合机  
V type mixer



三辊研磨机  
Three roller mill



包装机  
Bag packing machine



立式胶体磨  
Vertical colloid mill



实验室设备  
Laboratory equipments





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