

# HONGAN MACHINERY

温州市弘安机械有限公司

WENZHOU HONGAN MACHINERY CO.,LTD



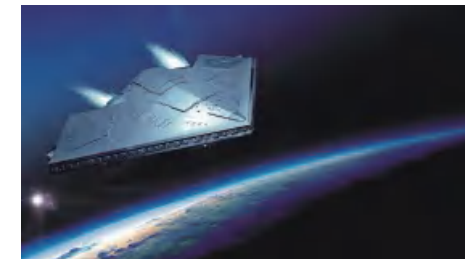
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在全球范围为您  
提供化工制药流体系统  
解决方案

## 温州市弘安机械有限公司

地址：中国浙江省温州市龙湾区交杯桥路55号  
电话：0577-88906539  
邮箱：sales@wzhongan.com  
网站：www.honganmachinery.com

Wenzhou Hongan Machinery Co.,Ltd  
Add:No.55 jiaobei bridge Rd,Longwan District,Wenzhou  
City,Zhejiang Province,China  
Tel:0577-88906539  
Email: sales@wzhongan.com  
Web:www.honganmachinery.com



通过整合，弘安为精细化工、生物技术、制药、乳品和饮料等行业的客户提供了极其可靠的产品组合和全面的流体控制方案。

Through integration, Hongan has provided reliable product combination and complete fluid control plans for customers from such industries as fine chemical industry, biological technology, pharmacy, dairy, beverage and etc.

**HONGAN**  
MACHINE

# About Us



## 品质成就梦想

“弘安”人始终坚信“品质成就梦想”您的一个电话、一分邮件、留给我们的是一次宝贵的机会，带给您们的可能是意想不到的收获。

"Hongan" personnel always believe that "quality accomplishes dream". A phone and an email from you bring us a valuable chance, and give you unexpected harvests.

Hongan Machinery Co., Ltd. is a machinery company specialized in design, development and manufacturing of sanitary stainless steel equipment as well as project installation, commissioning and after service, with the turn-key projects' being highly praised by users. The company carries out design and manufacturing in strict accordance with the ISO international quality certification system and national standards for relevant equipment. The products include pharmaceutical equipment, fine chemical equipment, dairy equipment, beverage equipment, biological engineering and high-precision fluid equipment.

By adhering to the operation concept of sincerity, truth-seeking and high efficiency, the company is always keeping to the principle of surviving by quality and seeking development by science and technology. In addition to implementing the 7S objective management system, the company has successively introduced internationally advanced machining equipment and production technology, strictly standardized every procedure during the production, and prevented any fault from arising in all chains through complete inspection equipment including inspection means such as spectrum analysis, chemical analysis, test of mechanical performances, seal and strength test, as well as pressure test, so as to ensure product quality and maximum benefit of customers.

Our company pays much attention to the introduction and training of talents. Now we have a contingent of nationally top-class technicians who specialize in equipment research, development, design, manufacturing and technological flow design. Furthermore, we have established a full set of employee training systems to ensure our stable and professional talent team.

The standard CAD design center ensures precise and accurate spare parts. The imported full-automatic welding equipment, large-sized tank and seal head automatic polishing unit, LCS-25 CNC machine tool and other manufacturing equipment meet "GMP" requirements for manufacturing pharmaceutical equipment, large transfusion and water injection equipment, as well as TCM extracting and concentrating equipment and etc.

We have won recognition and support from users at home and abroad thanks to many years of professional manufacturing experience, leading manufacturing technology, reliable product quality and sincere operation management. All staff members of our company are striving to create Hongan Machinery into a leading brand in the industry, making contribution to the development of the machinery industry.

弘安机械有限公司是一家专业从事卫生级不锈钢设备的设计、开发、制作及工程的安装，调试与售后服务为一体的机械公司，所倡导的“交钥匙工程”得到了广大客户的赞誉。公司产品严格按照ISO国际质量认证体系及国家有关设备标准进行设计制作，产品涉及制药设备、精细化工设备、乳品设备、饮料设备、生物工程及高精度的流体设备等领域。

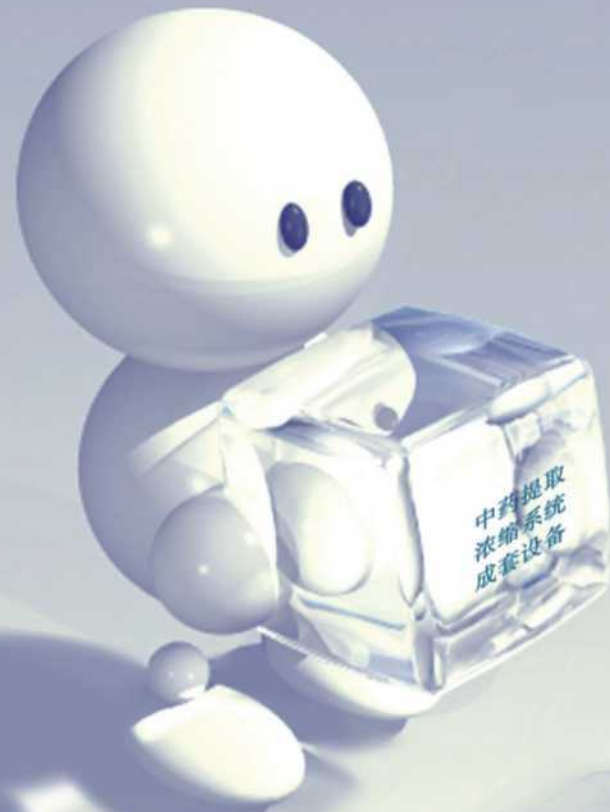
公司秉承诚信，务实，高效，创新的经营理念，始终坚持以质求生存，靠科技谋发展的原则，公司实行7S目标管理体制，先后引入国际领先水平的加工设备和生产工艺，严格规范生产过程中的每道工序，凭借完整的检测设备，如光谱分析，化学分析，机械性能，密封及强度，压力测试等检测手段，杜绝设备生产各个环节中出现的漏，保证了产品质量及客户的最大利益。

公司非常注重人才的引进和培训，目前拥有一批国内一流的设备研发、设计、制作及工艺流程设计的专业技术人员，并已建立起一套完整的员工培养及培训机制，保证了人才队伍的稳定性与专业化。

标准的CAD设计中心，保证每个零部件的精细精确，进口全自动焊接设备，大型筒体及封头自动抛光机组，LCS-25数控加工中心机床等制作设备，满足符合卫生级“GMP”要求的制药、大输液、水针剂及中药提取、浓缩、浸膏等设备的制作。

多年专业的制作经验，领先的制作工艺，可靠的产品质量，诚信的经营理念，赢得了国内外客户的肯定和支持、公司全体同仁将努力打造弘安机械成为行业的领导品牌，为机械行业的发展贡献力量。





**A**  
中药提取浓缩系统成套设备  
TCM extracting and concentrating  
system whole-set equipment

**B**  
大输液/水针剂配液系统成套设备  
Large transfusion and water injection  
dispensing system whole-set equipment

**C**  
生物工程发酵设备  
Biological engineering  
fermenting equipment

**D**  
血液制品配液系统成套设备  
Blood products dispensing  
system whole-set equipment

**E**  
洁净管道工程设计安装  
Design and installation  
of clean pipe projects

**F**  
精细化工工程设备  
Fine chemical industry  
engineering equipment

**G**  
乳品、饮料成套设计与制作  
Dairy and beverage whole-set  
design and manufacturing

**H**  
水处理设备  
Water treatment equipment

## Undertake engineering projects 承接工程项目

专业的研发、设计、制作及工程安装、调试与售后服务团队，  
随时准备为您的企业提供最可靠、高效的服务。

The professional team for research, development, design, manufacturing,  
project installation, commissioning and after service are ready to provide  
your enterprise with the most reliable and efficient service at any time.

## Example Project



弘安机械成立以来所取得的骄人成绩，使我们坚信：一份耕耘、一份收获；只有坚持以客户为中心，贴近市场，不断完善自我，提升企业综合竞争力，才能将企业做大、做强，更好的服务于社会。

Since its establishment, Hongan Machinery has achieved outstanding successes, which convinced us that: no pains, no gains. Only by centering on customers, keeping close to the market, improving ourselves continuously and promoting the comprehensive competition force of the enterprise, can we make the enterprise bigger and stronger to better serve the society.

## Example Project



严谨的管理体系，完美的制作工艺，始终为客户提供最佳、最可靠的工程品质，同时为客户创造最大的利益，弘安机械真诚地期待您的合作与支持。

With the aid of the strict management system and perfect manufacturing technology, we are always offering customers the best and the most reliable project quality and creating the maximum benefit for customers. Hongan Machinery is sincerely looking forward to cooperating with you under your great support.

先进的生产设备，精良的流水制作，尽显一流品质。  
与日俱增的精品意识和源源不断的工业精品令世界机械制造业日新月异。

The advanced production equipment and fine flow line manufacturing display the first class quality.  
The increasingly enhanced conception of fine products and continuous industrial fine products have made great changes with each passing day in the world machinery manufacturing industry.



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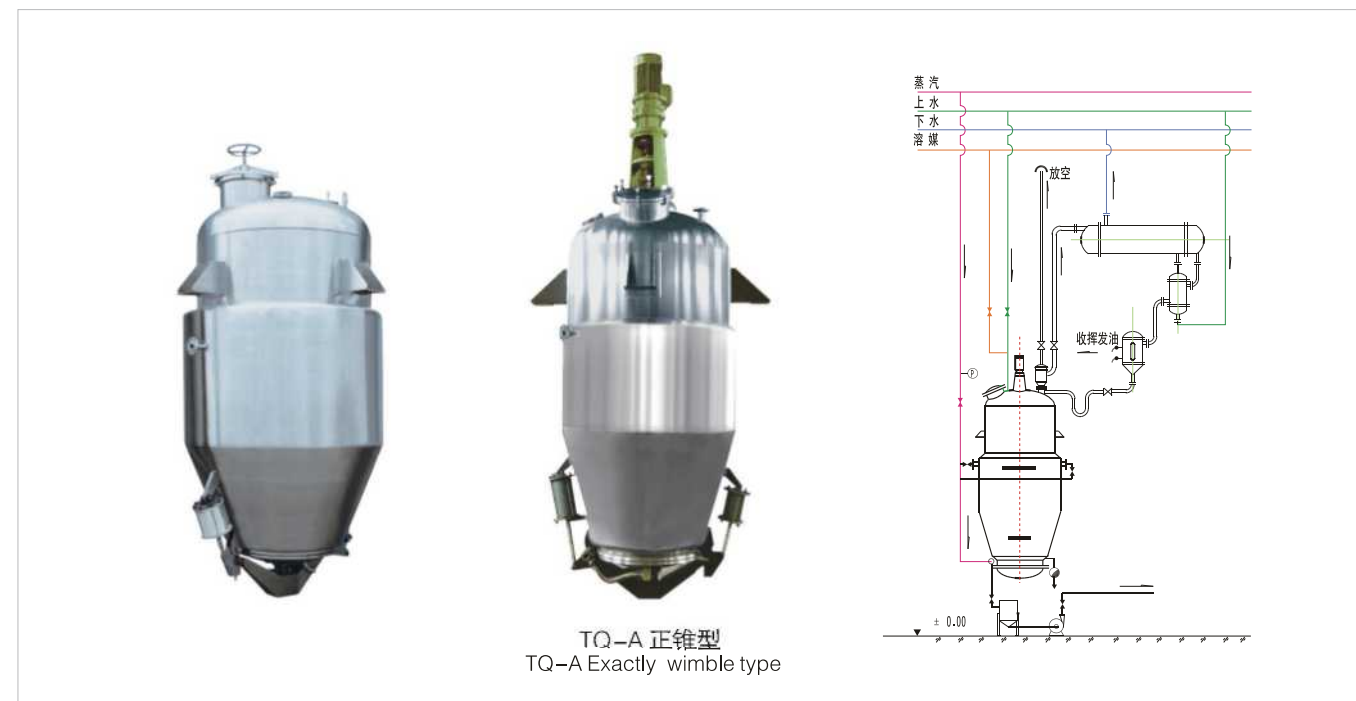
## TQ-A 正锥型提取罐 TQ-A EXACTLY WIMBLE TYPE XACTING TANKS

### 设备特点

本设备可用于中药、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。罐体配备 CIP 清洗自动旋转喷洗球，温度表、视孔灯、视镜、快开式投料口等，确保操作简便，符合 GMP 标准。设备内筒体材质为进口 SUS304，夹套采用整体聚氨酯发泡保温，外层用 SUS304 亚光抛光面。外筒体贴 SUS304 亚光薄钢板饰面。设备成套供应包括：除沫器、冷凝器、冷却器、油水分离器、过滤器、气缸控制箱等附件。

### EQUIPMENT CHARACTERISTICS

The equipment is applicable to the multiple technology operations of normal pressure, micro pressure, water frying, warm soaking, thermal reflux, compulsory circulation, filtration, redolent oil extraction and organic solvent recycling in traditional Chinese medicine, food and chemical industry. The tank body is equipped with CIP cleaning automatic rotary spraying ball head, thermometer, view lamp, sight glass, rapid open type feeding inlet and etc., which can guarantee the convenient operation and are in accordance with GMP standard. The tank body inside the equipment is made of imported SUS304, and the jacket adopts the integral PU foam for heat preservation. The external layer is subjected to SUS304 matte polishing. The external tank body is stuck with SUS304 matte thin steel sheet for surface decoration. The complete equipment supplied shall include: defoamer, condenser, cooler, oil and water separator, filter, cylinder control box and other accessories.



### 技术参数 TECHNICAL PARAMETERS

规格 Specification	型号 Model						备注
	TQA-1	TQA-2	TQA-3	TQA-6	TQA-8	TQA-10	
容积 Volume (L)	1200	2300	3200	6300	8500	11000	
罐内设计压力 Design pressure in tank	0.09MPa						
夹层设计压力 Design pressure in jacket	0.3MPa						
压缩空气压力 Pressure of compressed air	0.6-0.7MPa						
加料口直径 Diameter of material inlet(mm)	400	400	400	450	450	450	
加热面积 Heating area (m <sup>2</sup> )	3	4.7	6	7.5	9.5	12	
冷凝面积 Condensing area (m <sup>2</sup> )	4	6	6	10	12	15	TQA、TQZ
冷却面积 Cooling area (m <sup>2</sup> )	1	1	1	1	2	3	及其动态
过滤面积 Filtration area (m <sup>2</sup> )	0.5	0.5	0.5	0.8	0.8	1.2	
排渣门直径 Diameter of slagging door	800	800	800	1000	1000	1200	
耗汽 Steam consumption (t/h)	285	346	570	718	903	1140	
耗水 Water consumption (t/h)	3	4	5	7	8	10	
设备重量 Equipment weight (Kg)	1800	2050	2400	3025	4030	6500	
加热汽管口 Orifice of heated steam (m/m)	DN-40	DN-40	DN-50	DN-50	DN-60	DN-60	

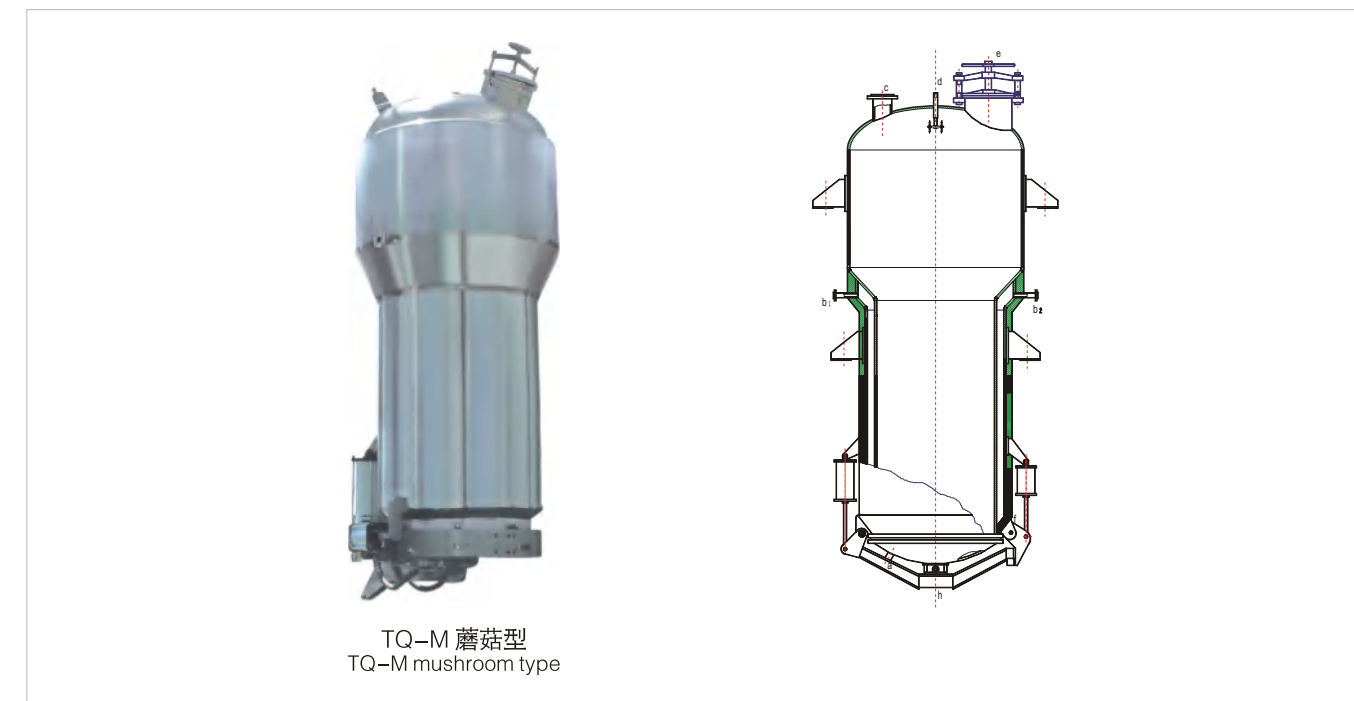
## TQ-M 蘑菇型提取罐 TQ-M MUSHROOM TYPE EXACTING TANKS

### 设备特点

本设备可用于中药、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。罐体配备 CIP 清洗自动旋转喷洗球，测温孔、防爆视孔灯、视镜、快开式投料口等，确保操作简便，符合 GMP 标准。设备内筒体材质为进口 SUS304，夹套采用全封闭硅酸铝毯保温，外筒体贴 SUS304 亚光薄钢板饰面。设备成套供应包括：除沫器、冷凝器、冷却器、油水分离器、过滤器、气缸控制台等附件。

### EQUIPMENT CHARACTERISTICS

The equipment is applicable for the multiple technology operation of normal pressure, micro pressure, water frying, warm soaking, thermal reflux, compulsory circulation, filtration, redolent oil extraction and organically solvent recycling in traditional Chinese medicine, food and chemical industry. The tank body is equipped with CIP cleaning automatic rotary spraying ball head, temperature measuring hole, explosion-proof view lamp, view mirror, rapid open feeding inlet etc., which can guarantee the convenient operation and is in accordance with GMP standard. The tank body inside the equipment is made of imported SUS304, and the jacket is made of completely sealed aluminum silicate blanket for temperature holding. The external tank body is stuck with SUS 304 semi-luster thin steel sheet for surface decoration. The complete equipment supplied shall include: Defoamer, condenser, cooler, oil and water separator, filter and control desk for cylinder etc. Accessories.



### 技术参数 TECHNICAL PARAMETERS

规格 Specification	型号 Model						备注
	TQM-1	TQM-2	TQM-3	TQM-6	TQM-8	TQM-10	
容积 Volume (L)	1200	2300	3200	6300	8500	11000	
罐内设计压力 Design pressure in tank	0.09MPa						
夹层设计压力 Design pressure in jacket	0.3MPa						
加料口直径 Diameter of material inlet(mm)	400	400	400	450	450	450	
加热面积 Heating area (m <sup>2</sup> )	3	4.7	6	8	11	12	
冷凝面积 Condensing area (m <sup>2</sup> )	5	6	8	10	12	15	
冷却面积 Cooling area (m <sup>2</sup> )	1	1	1	2	2	3	
过滤面积 Filtration area (m <sup>2</sup> )	0.5	0.5	0.8	1.2	1.2	1.2	
耗汽 Steam consumption (t/h)	285	346	570	718	903	1140	
耗水 Water consumption (t/h)	3	4	5	7	8	10	
蒸汽口 Steam inlet (m/m)	40	40	40	50	60	60	
进出水口 Water inlet and outlet (m/m)	40	50	60	60	70	70	
排渣门直径 Diameter of slagging door	800	800	1000	1200	1200	1200	



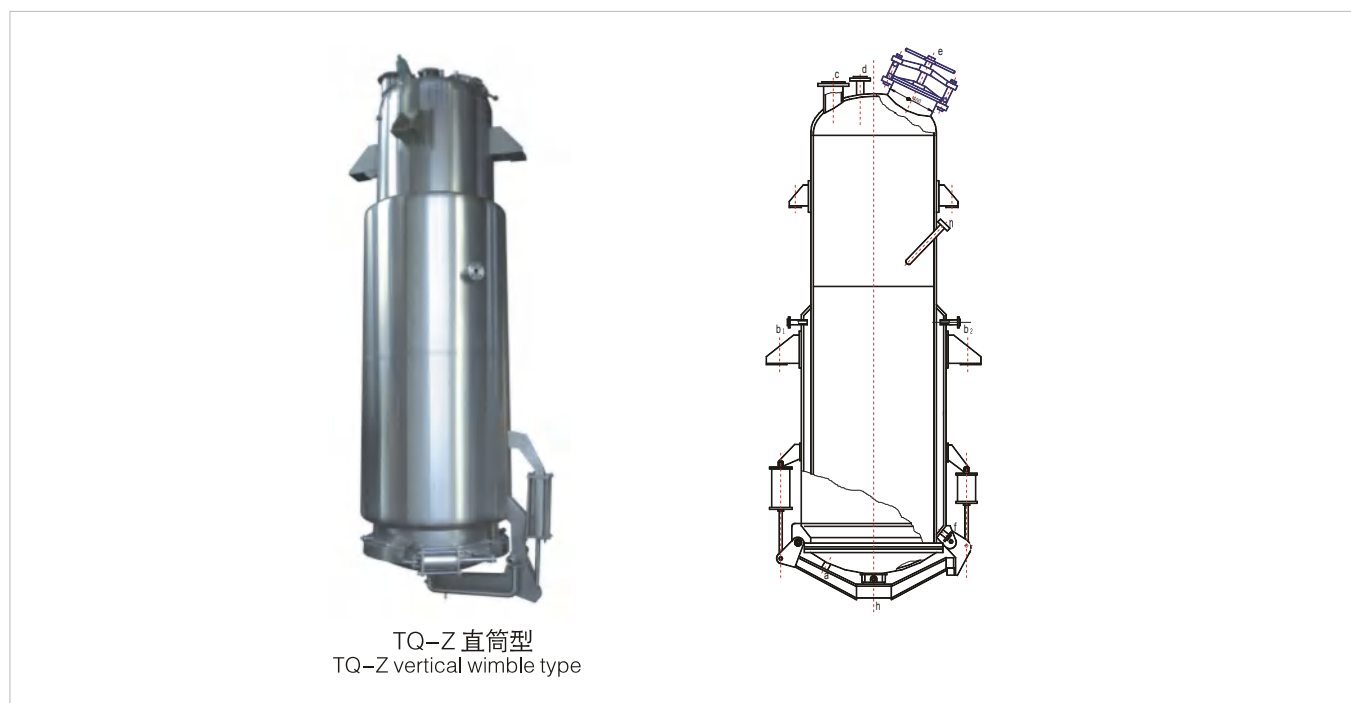
## TQ-Z 直筒型提取罐 TQ-Z VERTICAL WIMBLE TYPE EXACTING TANKS

### 设备特点

本设备可用于中药、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。大小锥型提取罐最突出的特点是出渣非常方便，加热效果好。罐体配备 CIP 清洗自动旋转喷洗球，测温孔、防爆视孔灯、视镜、快开式投料口等，确保操作简便，符合 GMP 标准。设备内筒体材质为进口 SUS304，夹套采用全封闭硅酸铝毯保温，外筒体贴 SUS304 亚光薄钢板饰面。设备成套供应包括：除沫器、冷凝器、冷却器、油水分离器、过滤器、气缸控制台等附件。

### EQUIPMENT CHARACTERISTICS

The equipment is applicable for the multiple technology operation of normal pressure, micro pressure, water frying, warm soaking, thermal reflux, compulsory circulation, filtration, redolent oil extraction and organically solvent recycling in traditional Chinese medicine, food and chemical industry. The tank body is equipped with CIP cleaning automatic rotary spraying ball head, temperature measuring hole, explosion-proof view lamp, view mirror, rapid open feeding inlet etc., which can guarantee the convenient operation and is in accordance with GMP standard. The tank body inside the equipment is made of imported SUS304, and the jacket is made of completely sealed aluminum silicate blanket for temperature holding. The external tank body is stuck with SUS304 semi-luster thin steel sheet for surface decoration. The complete equipment supplied shall include: Defoamer, condenser, cooler, oil and water separator, filter and control desk for cylinder etc. Accessories.



### 技术参数 TECHNICAL PARAMETERS

规格 Specification	型号 Model	TQB-1	TQB-2	TQB-3	TQB-6	TQB-8	TQB-10	备注
容积 Volume (L)		1200	2300	3200	6300	8500	11000	
罐内设计压力 Design pressure in tank		0.09MPa						
夹层设计压力 Design pressure in jacket		0.3MPa						
加料口直径 Diameter of material inlet(mm)		400	400	400	450	450	450	
加热面积 Heating area (m <sup>2</sup> )		3	4.7	6	8	11	12	
冷凝面积 Condensing area (m <sup>2</sup> )		5	6	8	10	12	15	
冷却面积 Cooling area (m <sup>2</sup> )		1	1	1	2	2	3	
过滤面积 Filtration area (m <sup>2</sup> )		0.5	0.5	0.8	1.2	1.2	1.2	
耗汽 Steam consumption (t/h)		285	346	570	718	903	1140	
耗水 Water consumption (t/h)		3	4	5	7	8	10	
蒸汽口 Steam inlet (m/m)		40	40	40	50	60	60	
进出水口 Water inlet and outlet (m/m)		40	50	60	60	70	70	
排渣门直径 Diameter of slugging door		800	800	1000	1200	1200	1200	

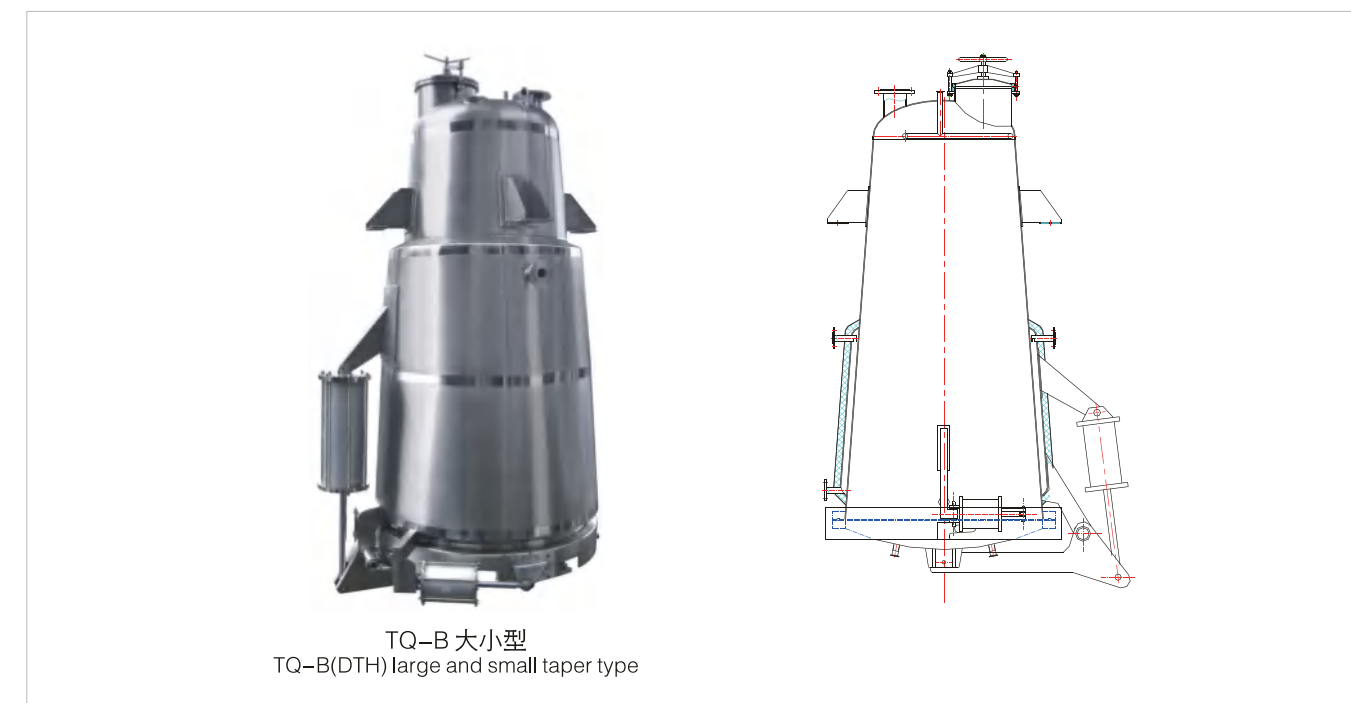
## TQ-B 大小锥型提取罐 TQ-B LARGE AND SMALL TAPER TYPE EXTRACTING TANK

### 设备特点

本设备可用于中药、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。大小锥型提取罐最突出的特点是出渣非常方便，加热效果好。罐体配备 CIP 清洗自动旋转喷洗球，测温孔、防爆视孔灯、视镜、快开式投料口等，确保操作简便，符合 GMP 标准。设备内筒体材质为进口 SUS304，夹套采用全封闭硅酸铝毯保温，外筒体贴 SUS304 亚光薄钢板饰面。设备成套供应包括：除沫器、冷凝器、冷却器、油水分离器、过滤器、气缸控制台等附件。

### EQUIPMENT CHARACTERISTICS

The equipment is applicable for the multiple technology operation of normal pressure, micro pressure, water frying, warm soaking, thermal reflux, compulsory circulation, filtration, redolent oil extraction and organically solvent recycling in traditional Chinese medicine, food and chemical industry. The prominent characteristics of the large and small taper type extracting tank is that the slugging is very convenient with good heating effect. The tank body is equipped with CIP cleaning automatic rotary spraying ball head, temperature measuring hole, explosion-proof view lamp, view mirror, rapid open feeding inlet etc., which can guarantee the convenient operation and is in accordance with GMP standard. The tank body inside the equipment is made of imported SUS304, and the jacket is made of completely sealed aluminum silicate blanket for temperature holding. The external tank body is stuck with SUS304 semi-luster thin steel sheet for surface decoration. The complete equipment supplied shall include: Defoamer, condenser, cooler, oil and water separator, filter and control desk for cylinder etc. Accessories.



### 技术参数 TECHNICAL PARAMETERS

规格 Specification	型号 Model	TQB-1	TQB-2	TQB-3	TQB-6	TQB-8	TQB-10	备注
容积 Volume (L)		1200	2300	3200	6300	8500	11000	
罐内设计压力 Design pressure in tank		0.09MPa						
夹层设计压力 Design pressure in jacket		0.3MPa						
加料口直径 Diameter of material inlet(mm)		400	400	400	500	500	500	
加热面积 Heating area (m <sup>2</sup> )		3	4.7	6	8	11	12	
冷凝面积 Condensing area (m <sup>2</sup> )		5	6	8	10	12	15	
冷却面积 Cooling area (m <sup>2</sup> )		1	1	1	2	2	3	
过滤面积 Filtration area (m <sup>2</sup> )		0.5	0.5	0.8	1.2	1.2	1.2	
耗汽 Steam consumption (t/h)		285	346	570	718	903	1140	
耗水 Water consumption (t/h)		3	4	5	7	8	10	
蒸汽口 Steam inlet (m/m)		40	40	40	50	60	60	
进出水口 Water inlet and outlet (m/m)		40	50	60	60	70	70	
排渣门直径 Diameter of slugging door		800	800	1000	1200	1200	1200	

## 多功能提取罐 MULTIFUNCTIONAL EXTRACTING TANK

### 快开保险式出渣门

可自动开闭罐盖，采用了三气缸控制，同时增设了保险装置，防止意外操作，安全系数较高。适合中小型出渣口使用。

### RAPID OPEN SAFETY TYPE RESIDUE DISCHARGING DOOR

The tank cover can be automatically opened and closed. It adopts three-cylinder control and is provided with safety device to avoid accidental operation and provide high safety factor. It is suitable for use in small and medium-sized residue discharging vent.



### 旋转式出渣门

全自动开闭罐盖；可以实现高温高压提取，转环式可达到3Bar以上，给提取工艺提供了更多的选择，也可以适应一些特殊的工艺要求，安全可靠，具有充分的安全保障功能、提取罐无泄漏。

### ROTARY TYPE RESIDUE DISCHARGING DOOR

The tank cover can be automatically opened and closed. High temperature and high pressure extraction can be realized, and more than 3Bar can be achieved in the swivel type product. It provides more selection for extracting technology. It can also meet some special technological requirements. With good safety and reliability, it has sufficient safety guarantee functions and the extracting tank has no leakage.



### 提取罐出液的另一种选择

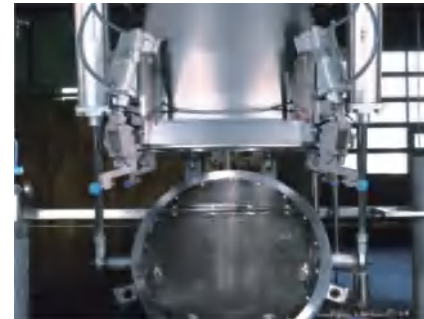
1、提取罐底部的过滤板采用两层，一层为厚度5-6mm的不锈钢支撑板，上有直径为10mm的圆孔，在支撑层的上面，是一层厚度为0.6mm薄不锈钢板，上面密布0.5×10mm的长孔，相对来讲，长孔更不易堵塞。  
2、可以根据客户的物料需求，在提取罐内胆上装过滤筒，可选用立纹式过滤网。过滤筒的过滤面积比底部面积增加了好几倍，解决了提取罐底部易堵出液难的问题。

### 大口径出渣门

可全自动开闭罐盖；可以实现高温高压提取，给提取工艺提供了更多的选择，此出渣门适合大口径倒锥型提取罐的出渣方式，安全系数高。

### LARGE-DIAMETER RESIDUE DISCHARGING DOOR

The tank cover can be automatically opened and closed. High temperature and high pressure extraction can be realized to provide more selection for extracting technology. With high safety factor, the residue discharging door is suitable for residue discharging of large-diameter upside-down taper type extracting tank.



### ANOTHER SELECTION OF LIQUID DISCHARGING IN THE EXTRACTING TANK

1. The filter board at the bottom of the extracting tank is made of two layers. The first layer is a 5-6mm thick stainless steel supporting board with a 10mm-diameter round hole at its top. Another thin stainless steel sheet with a thickness of 0.6mm thick is at the top of this supporting layer, and long holes of 0.5×10mm are spread over the stainless steel sheet. The long holes are comparably not easy to be blocked.  
2. According to material requirements of customers, the filter barrel is installed on the internal bladder of the extracting tank. Vertical grain type filter screen can be adopted. The filtering area of the filter barrel is several times higher than the bottom area, which can solve the problem of blocking and difficult liquid discharging at the bottom of the extracting tank.

### 技术参数 TECHNICAL PARAMETERS

规格 Specification	型号 Model	TQ-0.5	TQ-1	TQ-2	TQ-3	TQ-4	TQ-6	TQ-8	TQ-10
容积 Volume (L)		600	1200	2300	3200	4300	6300	8500	11000
罐内设计压力 Design pressure in tank		0.09							
夹层设计压力 Design pressure in jacket		0.3							
加料口直径 Diameter of material inlet(mm)		400	400	400	400	500	500	500	500
加热面积 Heating area (m <sup>2</sup> )		2.4	3	4.7	6.8	8	10	12	12
冷凝面积 Condensing area (m <sup>2</sup> )		3	4	5.4	8	10	10	15	18
冷却面积 Cooling area (m <sup>2</sup> )		1	1	1	1	1	2.2	2.2	3
过滤面积 Filtration area (m <sup>2</sup> )		0.25	0.25	0.25	0.25	0.25	0.30	0.30	0.30
排渣门直径 (mm)		600	800	800	800	800	1000	1000	1200
耗汽 Steam consumption (t/h)		285	285	346	570	660	718	903	1140
耗水 Water consumption (t/h)		2.1	2.1	2.5	4.2	4.5	5.5	6.7	6.7
加热汽管口 (mm)		32	32	32	40	40	50	50	50
排气管口 (mm)		100	100	100	125	125	150	150	150
冷却水管口 (mm)		40	40	40	50	50	50	65	70
电动机功率 (KW)		2.2	2.2	3	4	5.5	5.5	7.5	7.5
搅拌转速 (r/min)		36	36	36	36	36	36	36	36

注：TQ 多功能提取罐加入必要装置后可组合成动态提取系统

## RH热回流提取浓缩器 RH HEAT REFLUX EXTRACTING CONCENTRATOR



### EQUIPMENT CHARACTERISTICS

High material feeding volume. The medicine feeding volume is twice as much as that of the common extraction equipment.  
Good technological adaptability. Suitable for water extraction or alcohol extraction under conditions of negative pressure, normal pressure and positive pressure, especially suitable for low-temperature extraction and concentration of heat sensitive materials. High ointment collection rate. Because of the dynamic extraction of medicine, the solute contents in the medicine and solvent keep high gradient, which increases the pushing force of lixiviation and increases ointment collection rate. It can extract 5-20% more than normal method.  
Saving solvents. With totally sealed close-loop cycling, 30-50% of energy can be saved.  
Saving time. Extraction and concentration can be completed in one step, and the reflux of this unit is twice as much as that of the common equipment. The period for the whole procedure is only 4-6 hours.  
Low energy consumption. Because the twice steam is used as heat source and the extraction and concentration can be made at one time, above 50% of steam can be saved in the unit. The medical components of the extracted materials are greatly improved. As the period for extraction is short and the temperature can be controlled automatically, the quality of extracted materials can be greatly improved. Highly automatic degree. The temperature, pressure, flow, liquid level and concentration can be set and kept under automatic control with convenient operation and stable performance. All instruments, meters, executive elements and PLC are made of famous brand products from home and abroad. Therefore, they are highly reliable.

### 技术参数 TECHNICAL PARAMETERS

提取罐容积 Volume of extract can(m <sup>3</sup> )	0.5	1	2	3	6
浓缩器蒸发量 Volume of concentrator(L)	250	500	800	1000	2000
水提温度 Temperature for water distillation(°C)	90~100				
醇提温度 Temperature for alcohol distillation(°C)	78~83				
提取时间 Distillation time	5~6小时/批				
真空度 Vacuum degree(MPa)	-0.05~-0.08				
设计压力 Used pressure(MPa)	0.09~0.3				

### 设备特点

投料量大。投药量可比常规提取增加一倍。  
工艺适应性好。能采用常压、负压、正压工艺操作的水提和醇提，特别是热敏性物料的低温提取、浓缩。收膏率高。因药材动态提取，药材与溶剂间浓度梯增大，增加了浸出推动力，提高了得膏率。可比常规法多提5-20%以上。  
节约溶媒。全封闭回路循环，可节约30-50%。  
节省时间。提取、浓缩一步完成，且本机组合采用比常规大一倍的回流量，全过程仅需4-6小时。  
能耗降低。因采用二次蒸汽作为热源，提取、浓缩同时进行，本机组合节约蒸汽50%以上。  
提取物药用成份质量提高。由于提取时间短，温度又随机自控，提取物质量明显提高。  
自动化程度高。温度、压力、流量、液面、浓度均能设定、自控，操作方便，性能稳定。仪器仪表、执行元件、PLC均是精选的国内外名牌产品，可靠性高。  
加热浓缩器可一面出料，一面进料，不易结垢、结焦。浓缩液比重可达1.1-1.3。特殊物料(易结垢、结焦物料)可改自然循环为强制循环系统。以满足客户特殊物料需要。  
新技术、新工艺、新材料应用多，机组综合工艺性能好。本机组合凡与药物、溶剂接触的仪器、设备、管道等材料材质均采用优质不锈钢。内部均无死角，抛光至镜面，易清洗；提取罐出液改为双过滤层，不易堵塞；提取罐、分离器均设双作用惯性除沫器，效果好；加热器采用高光洁度薄壁无缝管；冷凝器中采用薄壁小口径无缝管，双管程，传热效果好；使得该机组的工艺适应性，性能的可靠性，运行的稳定性，都领先于国内其它同类机组。

Inlet and outlet of materials are made at one time in the heating concentrator. So agglomeration and solidification are not likely to happen. The specific gravity of concentration liquid can reach 1.1-1.3. For special materials (likely to agglomerate and solidify), natural cycling can be changed into compelled cycling to meet customer requirements.  
New technologies, new processes and new materials are utilized for excellent performance of the unit. The instruments, devices, pipes and other parts of the unit that contact medicines and solvents are all made of high quality stainless steel. The internal part is free of dead corner and can be easily cleaned thanks to the mirror polishing treatment. The extracting tank is changed to have two filtering layers to prevent blocking. The extracting tank and separator are both provided with the dual-purpose defoamer of good effect. The seamless tubes of high fineness and thin wall are used in the heater. The small-diameter seamless tubes of thin wall are adopted in the condenser, providing double sides and good heat transfer effect so as to make the technological adaptability, performance reliability and operation stability of the unit superior to those of other same units in China.

## SJN-T 热泵双效节能浓缩器

### SJN-T HOT PUMP DUAL-EFFECT ENERGY SAVING CONCENTRATOR



**适用范围:** 适用于热敏性物料的低温真空浓缩, 尤其适用于中药、西药、淀粉糖等水溶液的浓缩。

**工作原理:** 通过热泵将一效二次蒸汽压缩后再提供给一效加热, 从而大量节约蒸汽的消耗量, 降低生产成本

**设备组成:** 一效加热器、一效蒸发室、热泵、二效加热器、二效蒸发室、冷凝器、受液罐、系统内管件阀门一套。

**温度指标:** 生蒸汽压力0.5~0.7MPa; 一效加热温度90°C; 一效蒸发温度75°C; 二效加热温度75°C; 二效加热温度75°C; 二效蒸发温度55°C;

**蒸汽消耗量:** 汽水比为0.33~0.37kg汽/kg水, 比不带热泵双效浓缩器节能约34%, 节水为30%

#### 技术参数 TECHNICAL PARAMETERS

项目	单位	带热泵中药双效浓缩装置 Traditional Chinese medicine dual-effect concentrating device provided with hot pump	普通的中药双效浓缩装置 Ordinary traditional Chinese medicine dual-effect concentrating device
高压引射蒸汽压力 High pressure ejection steam pressure	MPa	0.5~0.6	0.1~0.25
热能压缩机噪声 Noise of hot energy compressor	dB (A)	80~85	
理论汽水比 Theoretical steam-water ratio	kg 汽 /kg 水	0.30	0.50
实际运行汽水比 Actual steam-water ratio	kg 汽 /kg 水	0.33~0.35	0.65~0.75
第一效	壳程真空度 Shell side vacuum degree	MPa	0.040~0.030
	加热蒸汽温度 Heating steam temperature	°C	85~90
	蒸发室真空度 Evaporation chamber vacuum degree	MPa	0.068~0.060
	沸点 Boiling point	°C	70~75
第二效	壳程真空度 Shell side vacuum degree	MPa	0.068~0.060
	加热蒸汽温度 Heating steam temperature	°C	70~75
	蒸发室真空度 Evaporation chamber vacuum degree	MPa	0.089~0.082
	沸点 Boiling point	°C	52~57
各效加热室凝结水排出方式 Discharging method of condensed water in chambers of various effects		等压排水串级自蒸发, 可回收凝结水部分热量。 With isobaric pressure water discharging serial self-evaporation, some heat of the condensed water can be recycled.	
冷却水量 Cooling water volume	°C	进水温度25 出水温度35 Water inlet temperature 25 water outlet temperature 35	取此装置冷却水量为1 The cooling water volume of the device is taken as 1.
操作性 Operability		操作简便, 调整及观察容易 Simple operation and adjustment and easy observation	相同蒸发量, 冷却水量为1.43 Under same evaporation, the cooling water volume is 1.43.
经济性 Economical efficiency		占地面积小, 设备造价较高, 使用成本低, 适合热敏性物料 Small land area, higher equipment cost and low using cost Suitable for heat sensitive materials	占地面积小, 设备造价低, 使用成本高 Small land area, lower equipment cost and high using cost
增加设备投资成本 Increasing equipment investment cost		1.50	以此项成本为1 Taking the cost of the item as 1

## SJN II 双效节能浓缩器

### SJN II SERIES DUAL-EFFECT CONCENTRATOR



#### 用途

本浓缩器适用于中药、西药、淀粉糖、食乳品等液料的浓缩, 尤其适用于热敏性物料的低温真空浓缩。

#### 设备特点

1. 节能效益, 按 SJN II -1000 型计算, 年节约蒸汽 2500 吨左右, 节约水 7 万吨左右, 节约电 6 万度左右, 折人民币 8~10 万元。(与单效对比)
2. 本浓缩器采用负压外加热自然型循环式的蒸发方式, 蒸发速度快, 浓缩比重大, 可达 1.1~1.3(一般中药浸膏)。
3. 本浓缩器采用二效同时蒸发, 二次蒸汽得到使用, 耗能总量与单效浓缩器相比降低 40%, 一年的节能费可收回本浓缩器的全部投资。
4. 多功能操作特点: (1) 可回收酒精浓度 80% 左右; (2) 一效、二效可以反复并锅收膏; (3) 可以间歇、连续进料。
5. 本浓缩器与物料接触部位均采用不锈钢制作, 符合 GMP 要求。外形美观, 加热器、蒸发器外均设有保温, 保温外用不锈钢板制作外壳, 表面做镜面或亚光处理。

根据客户要求我们推出一效带收膏型的二效节能浓缩器, 在正常浓缩过程, 关闭一效加热室与蒸发室连接喷管及循环管的阀门。将物料进入一效蒸发室并通过一效蒸发室的夹套加热, 在一效蒸发室内进行常压浓缩或减压浓缩, 以获得较高比重 (1.35~1.45) 的浓缩膏。

#### 技术参数 TECHNICAL PARAMETERS

型号规格 Model and specification	SJN II 500	SJN II 1000	SJN II 1500	SJN II 2000	SJN II 3000
最大蒸发量 Max evaporating capacity(kg/h)	500	1000	1500	2000	3000
蒸汽耗量 Steam cost(kg/h)	≤250	≤500	≤750	≤1000	≤1500
水耗量 (T/h) Water cost	6	12	15	18	25
蒸汽管口 Steam pipe orifice(mm)	40	50	50	65	80
外形尺寸 Dimension(mm)	长 L	4000	5000	6500	5500
	宽 W	1500	1700	1800	2000
	高 H	3300	3500	4000	4200
蒸发温度 Evaporating temperature(°C)	一效 First effect		80~90		
	二效 Second effect		55~70		
设计压力 Designed pressure(MPa)	0.09				
真空度 Vacuum degree(MPa)	一效 First effect		-0.04		
	二效 Second effect		-0.06		
浓缩比 Condensing ratio	1.1~1.3				

#### EQUIPMENT CHARACTERISTICS

The concentrator is applicable to concentration of liquid materials of traditional Chinese medicine, Western medicine, starch sugar, food and dairy products, and it is especially applicable to low temperature vacuum concentration of heat sensitive substances.

1. Energy saving benefit. Taking SJN II -1000 type for calculation, in a year, approximately 2,500 tons of steam, 70 thousand tons of water and 60 thousand electrical degrees can be saved, thus, cost of nearly RMB 80~100 thousand Yuan is reduced (compared with single-effect).
  2. The concentrator adopts negative pressure external heating natural cycling evaporation mode, with instant evaporation and great concentrated specific gravity up to 1.1~1.3 (common TCM extract).
  3. The concentrator adopts dual-effect simultaneous evaporation and uses twice steam. Therefore, the energy can be saved by 40% when compared with single-effect concentrator. The investment saved in a year can be up to total investment on the concentrator.
  4. Multiple functions: (1) The concentration of alcohol that can be reclaimed is approximately 80%. (2) The boiler can reclaim creams repetitively with the circulation of first effect and second effect (3) Materials can be fed into for concentration continuously and at intervals.
  5. The parts of the concentrator that contact materials are all made of stainless steel, which is in accordance with GMP standard. It has beautiful appearance. The heater and evaporator are provided with heat preservation. The heat preservation adopts stainless steel sheet as the shell. The surface adopts mirror polishing or matte treatment.
- According to customer requirements, we have developed dual-effect energy saving concentrator with single-effect ointment collection. During the normal concentration, the valves connecting the spraying tube and circulating tube in the first effect heating chamber and evaporating chamber will be closed. The materials will enter the first effect evaporating chamber and through the jacket heating in the first effect evaporating chamber, normal pressure type or pressure relief type concentration will be carried out in the first effect evaporating chamber so as to obtain concentrated ointment of higher specific gravity (1.35~1.45).

## 板式浓缩设备 PLATE CONCENTRATING EQUIPMENT

### 设备说明

板式浓缩设备由新型板式升降膜蒸发器为核心、配以高效旋风分离器，物料在真空下低温蒸发，加热蒸汽实行反复回用的多效蒸发操作，采用高效板式换热器的瞬间快速加热杀菌工艺，可成套设计至提供全套装置及设计。本设备结构紧凑、效率高（总传热系数为管式蒸发器的2~4倍）拆卸清洗方便，持液量少，物料在高温下的时间短，本设备可用于中草药、果汁、乳品、糖醇、精细化工等物料的浓缩。



### EQUIPMENT DESCRIPTIONS

Equipped with high efficiency vortex separator, the plate concentrating equipment revolves around the new type plate rising-falling film evaporator to evaporate the materials under vacuum at low temperature and heat the steam to carry out multi-effect evaporation operation through repetitive use. It adopts high efficiency plate heat exchanger to instantly and rapidly complete heating and sterilizing processes. Whole set design and complete set devices and designs are available. Thanks to the features such as compact structure, high efficiency (the total transfer coefficient is 2~4 times of that of tubular evaporator), convenient disassembly and cleaning, low liquid holding quantity and short duration of materials under high temperature, the equipment is applicable to the concentration of fruit juice, dairy, sugar alcohol and fine chemicals etc. Materials.

### 使用板式蒸发器的优点

#### 1. 热传导效率高

特殊的波纹状板型产生高强度的湍流，比起传统的管壳式蒸发器，它的传热系数得到了极大的提高。Vap在高浓度和高粘度时特别有效，并且可以在温差仅3~5℃时工作。

#### 2. 结垢更少，运行周期长

波纹板片的设计是在很低流速下就可以达到高度湍流，结垢比列管换热器更不容易发生，运行周期变长，客户降低了生产运营成本，提高了生产效率。

#### 3. 电耗低

在相同的加热面积下，板式比列管式具有更大的流通截面积，且摩擦阻力小。在相同的流速时，板式蒸发系统可采用流量小和扬程低的泵，动力消耗小。

#### 4. 提高产品质量

非常低的滞留量意味着任何给定的时间，几乎没有产品留在Vap蒸发器内。产品在蒸发内停留的时间短，对于热敏产品而言是一个很大的优势。它还允许快速启动和关机，只有很少一点浪费。

### Advantage of Plate-Type Evaporator

#### 1. High heat transfer efficiency

Comparing with traditional shell-and-tube evaporator, plate-type evaporator with unique corrugation makes high turbulence so the heat transfer efficiency enhances, especially in the condition with medium of high concentration and high viscosity. Vap can work normally under the condition with temperature difference of 3~5℃. There is obvious advantage when Vaps were used in TVR and MVR systems.

#### 2. Less fouling, long operation cycle

The special design of the plate can make the flow turbulence in very low speed. This can reduce the fouling and prolong plate life time. Then both the maintenance cost and initial investment can be much smaller for customer.

#### 3. Low Power Consumption

For the same heat exchanging area, plate heat exchanger has bigger passage area and lower friction than tube heat exchanger. Then, for the same performance, plate-type evaporator can use a lower head pump and consume less power.

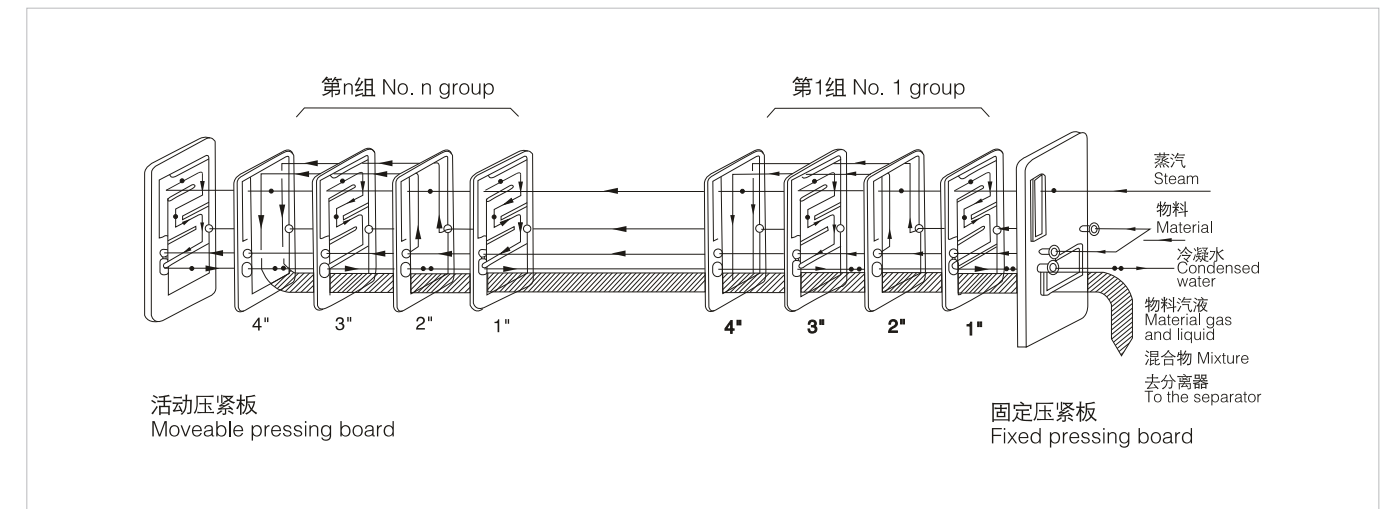
#### 4. Improving product quality

An obvious advantage of Vap is Low retention volume, which means there is hardly any medium resorted in Vap. Furthermore, quick start and stop are allowed for Vap.

## 板式浓缩设备 PLATE CONCENTRATING EQUIPMENT

### 工作原理图（中间各组从略）

### WORKING PRINCIPLE DIAGRAM (MIDDLE GROUPS ARE OMITTED)



### 工作原理

Vap是为蒸发而定制的，它有两个小的进料口和一个用于蒸汽和浓缩液的大出口。有一个大的入口用于加热蒸汽，一个小的出口用于蒸汽冷凝水出口。

Vap使用板片组的概念，每个板片组由成对焊在一起的板片组成或者可拆卸片组成。加热蒸汽在焊接通道内冷凝，而物料液则在垫片密封的通道内蒸发浓缩。

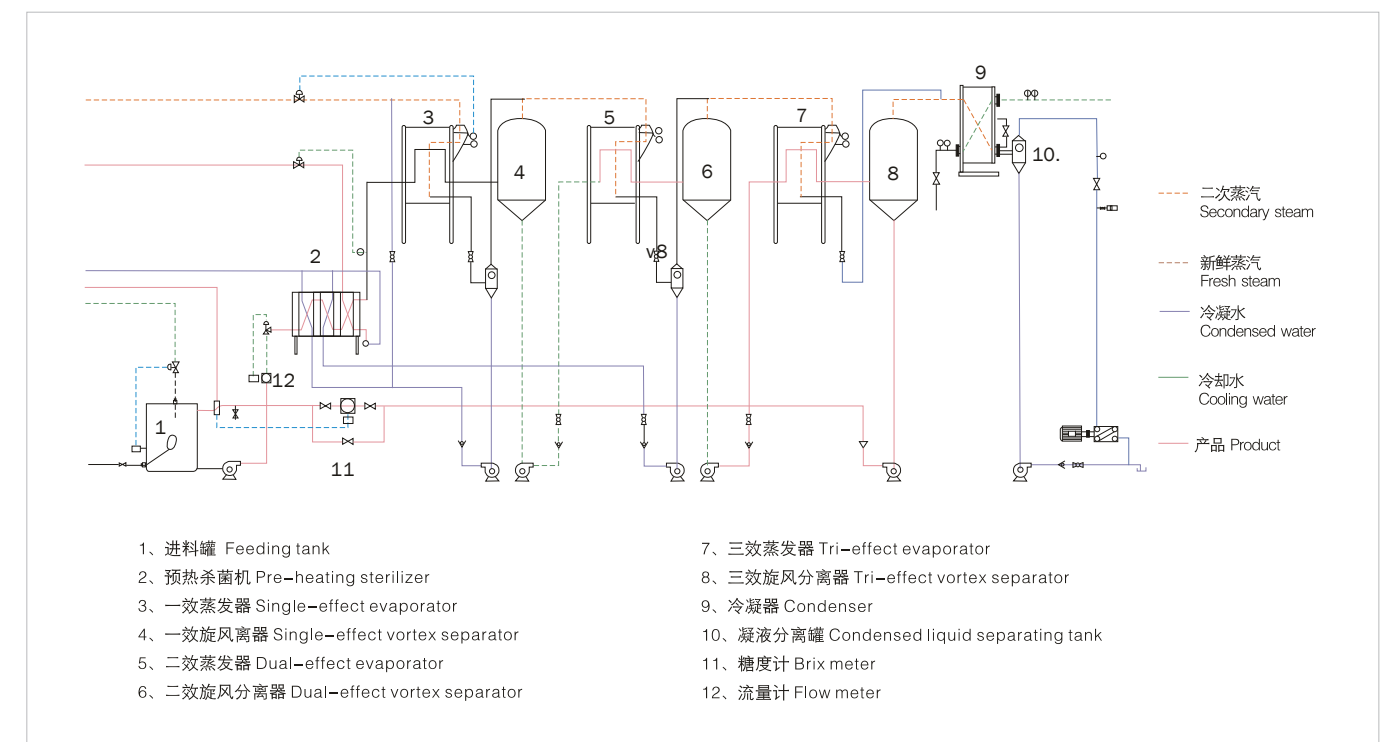
### WORKING PRINCIPLE

Vap is designed for evaporation and there are 2 small inlet orifices and 1 big outlet orifice. Additional, there are 1 big inlet for vapor heating and 1 small outlets for vapor and condensed water.

Vap adopts the concept plate cluster and every plate cluster composed of butt welded plates or demountable plates. Heated vapor would condensate in weld pass and the medium would evaporate and condensate in gasket sealed pass.

### 三效板式浓缩设备流程示意图

### FLOW CHART OF TRI-EFFECT PLATE CONCENTRATING EQUIPMENT



## JN 型系列多功能酒精回收浓缩器 JN MODEL SERIES MULTIFUNCTIONAL ALCOHOL RECOVERY CONCENTRATOR

### 设备特点

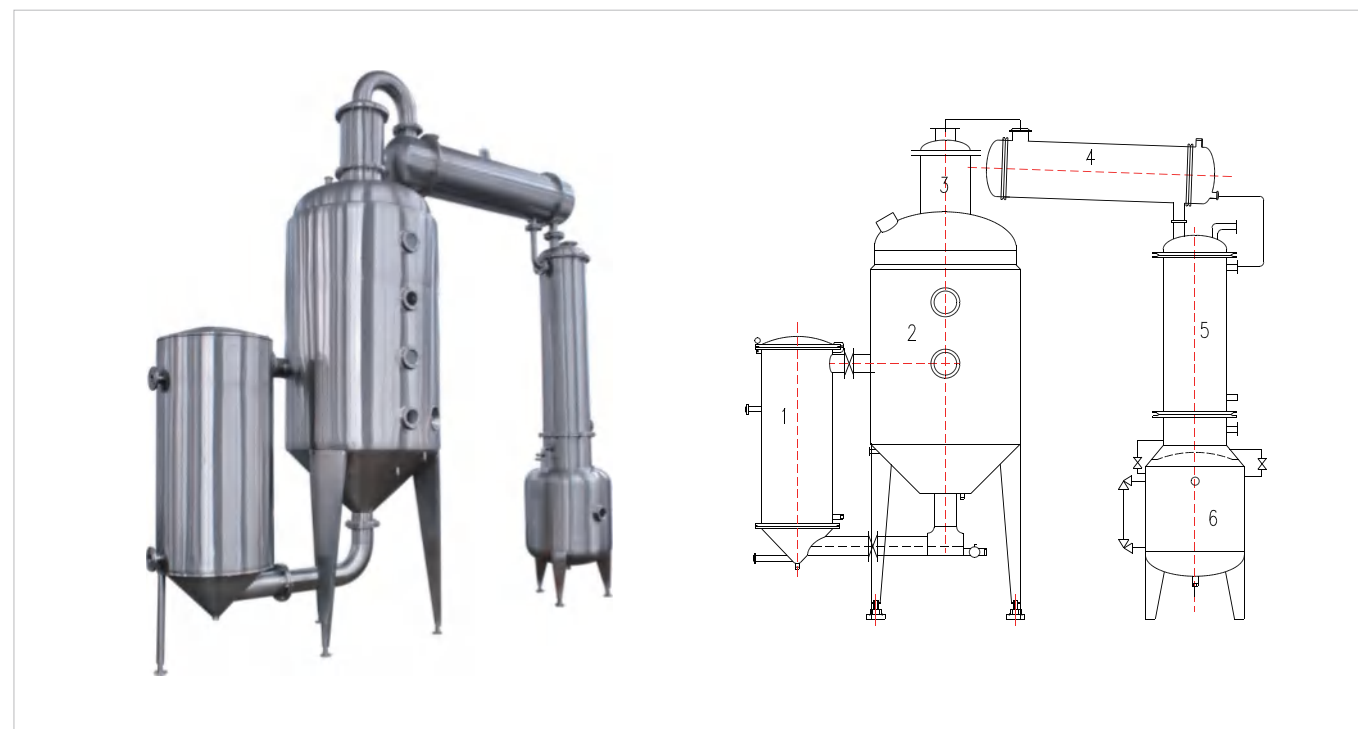
1. 酒精回收：回收能力大，采用真空操作方法，改进了设备的工艺流程。回收率能达到95%，使酒精损耗率低于5%。能耗降低30%，具有投资小，回收效益高的节能设备。
2. 浓缩液料：本设备采用外加热自然型循环式与真空负压蒸发方式，能具有蒸发速度快，浓缩比重可达(1.4)；液料在全密封中无泡沫浓缩，本设备浓缩出来的药液，具有无污染，药味浓。清洗方便，打开加热器上下盖即可。操作简单，占地面积小，外形美观，加热器、蒸发器、保温完整出厂，本设备与液料接触部位均采用不锈钢AISI304制造，保温采用聚胺脂发泡，外表面磨砂亚光处理，符合GMP医药标准。

本设备适用于中药、西药、葡萄糖、酿酒、淀粉、口服液、化工、食品、味精等工业酒精回收，能用于批量小、品种多的热敏性低温真空浓缩，并回收溶剂。

### EQUIPMENT CHARACTERISTICS

1. Alcohol recovery: Large recovery capacity. Adopt vacuum operation method and improve the process flow of device. The recovery rate can amount to 95%, the loss rate of alcohol is lower than 5%, and the energy consumption is 30% reduced. It is the energy saving equipment with small investment and high recovery benefit.
2. Liquid concentration: The equipment adopts external heating natural cycling mode and vacuum negative pressure evaporating mode, with instant evaporation and great concentrated specific gravity up to 1.4. The liquid materials are concentrated without foam under the completely sealed status. The liquid medicine concentrated from the equipment has no pollution, and has strong flavor of medicine. The cleaning is convenient. Just open the upper and lower covers of the heater. The operation is convenient, the space is small, the appearance is beautiful and the heater, evaporator and heat preservation are completely equipped before leaving the factory. The parts of the equipment contacting with liquid materials are made of AISI304 stainless steel. The heat preservation adopts polyurethane foaming or pearl cotton and the exterior surface adopts grinding semi-luster polishing. It is in accordance with GMP medicine standard.

The equipment is applicable for industrial alcohol recycling of traditional Chinese medicine, Western medicine, glucose, wine brewing, starch, oral liquid, chemical industry, food and monosodium glutamate. It can be used in the low temperature vacuum concentration of heat sensitive substances with small batches and large varieties. And recycle the solvent.



### 技术参数 TECHNICAL PARAMETERS

规格 Specification \ 型号 Model	JN-500	JN-1000	JN-1500
蒸发量 Evaporation quantity (kg/h)	500	1000	1500
回收酒精浓度 Density of recovery alcohol	85%	85%	85%
回收量 Recovery quantity (kg/h)	200	350	500
蒸汽压 Steam pressure (MPa)	0.098		
真空度 Vacuum degree	0.06-0.07MPa		
加热面积 Heating area (m <sup>2</sup> )	8	16	25
蒸发室容积 Volume of evaporation room (m <sup>3</sup> )	1.0	1.5	2

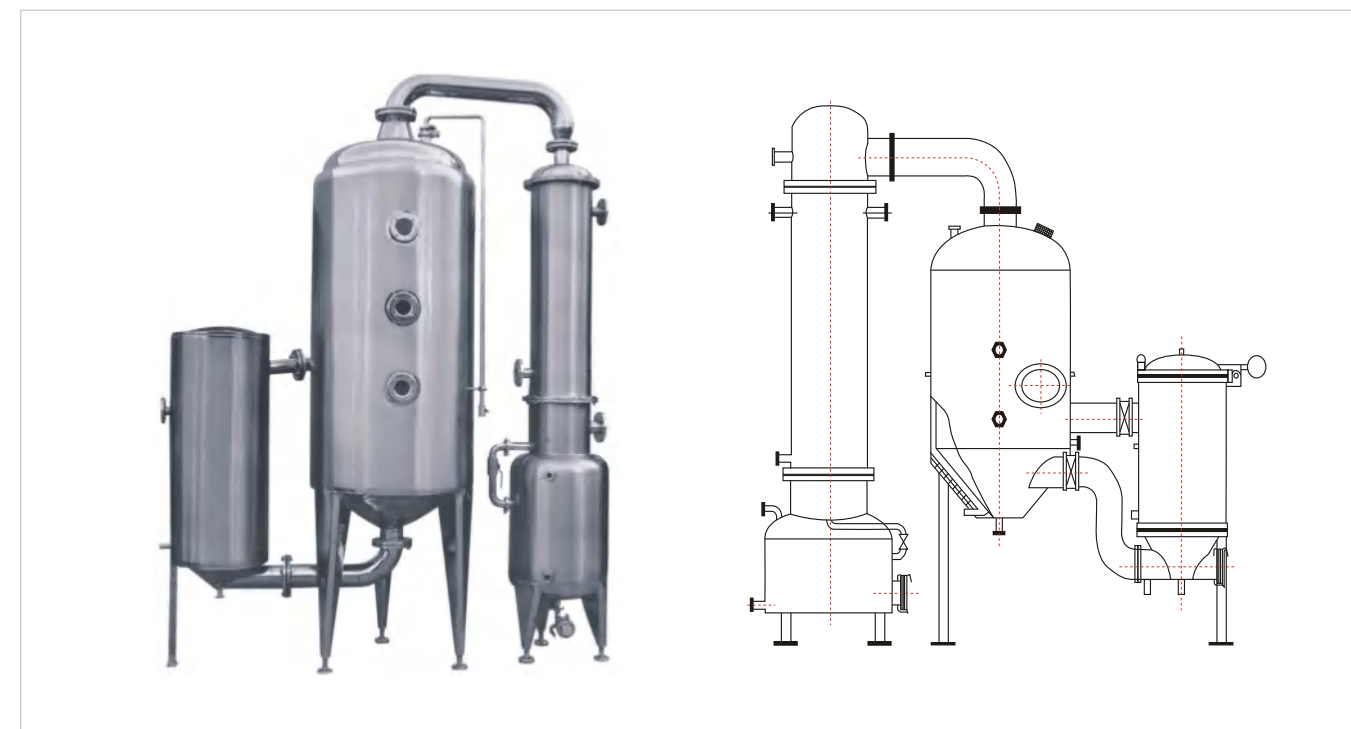
规格 Specification \ 型号 Model	JN-500	JN-1000	JN-1500
冷凝面积 Condensing area (m <sup>2</sup> )	10	15	20
冷却面积 Cooling area (m <sup>2</sup> )	6	12	16
受汽容积 Steam volume (m <sup>3</sup> )	0.2	0.3	0.3
耗汽 Steam consumption (Kg/h)	500	1000	1500
耗水 Water consumption (t/h)	7	12	20
加热蒸汽口 Vent of heated steam (m/m)	40	40	50
冷却水进出口 Inlet and outlet of cooling water (m/m)	40	40	50

## DNNS 型系列多功能单效浓缩器 DNNS MODEL SERIES MULTIFUNCTIONAL SINGLE EFFECT CONCENTRATOR

本设备适用于中药、西药、葡萄糖、淀粉糖、口服液、化工、食品、味精、乳品等物料浓缩与工业有机溶剂（如酒精）的回收，适用于批量小、品种多的热敏性物料的低真空浓缩。

### 设备特点与效益

1. 酒精回收：回收能力大，采用真空浓缩流程。比老型同类设备提高了5-10倍，降低能耗30%，具有投资小，回收效益高的特点。
2. 浓缩液料：本设备采用外加热自然型循环式与真空负压蒸发方式，蒸发速度快，浓缩比重可达1.3；液料在全密封状态无泡沫浓缩，本设备浓缩出来的药液，具有无污染，药味浓的特点，而且清洗方便(打开加热器的上下盖即可进行清洗)。本设备操作简单，占地面积小。加热器，蒸发器采用不锈钢保温结构，保温采用聚胺脂发泡，外表面磨砂亚光处理，符合GMP医药标准。



### 技术参数 TECHNICAL PARAMETERS

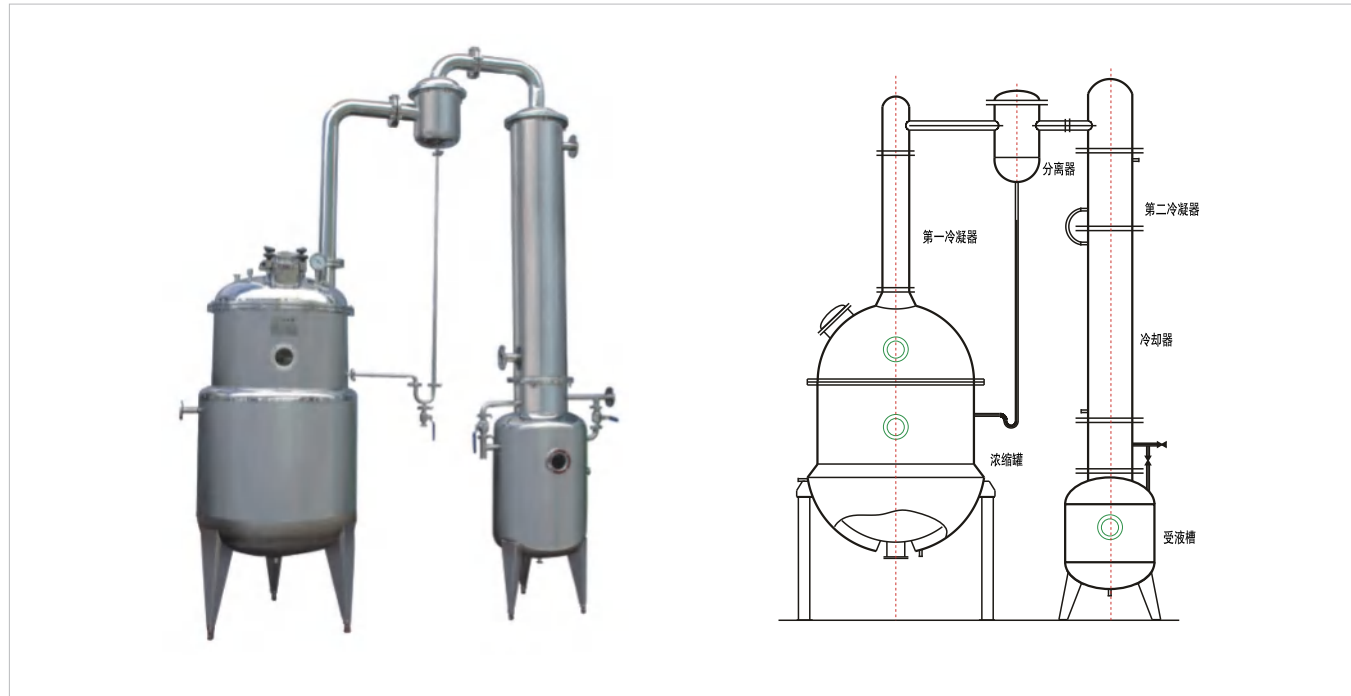
项目 Item	加热器 Heater		蒸发器 Evaporator		冷凝器 Condenser	
	壳程	管程	筒内	夹套	壳程	管程
设计压力 Design pressure (MPa)	0.09	0.09	0.09	0.09	0.3	0.09
工作压力 Working pressure (MPa)	< 0.09	-0.07	-0.07	< 0.09	0.25	-0.07
设计温度 Design temperature (°C)	< 100	< 100	< 100	< 100	30~40	< 100
工作温度 Working temperature (°C)	< 100	< 100	< 100	< 100	30~40	< 100
介质 Medium	蒸汽	药液	药液	饱和蒸汽	冷却水	二次蒸汽
主要材料 Main material	SUS304	SUS304	SUS304	Q235B	SUS304	SUS304
容积 Volume (L)	1100					
换热面积 Heat exchanging area (m <sup>2</sup> )	18		28			
蒸发能力 Evaporation capacity	1000kg/h					

The equipment is applicable for the concentration and recovery of industrial organic solvent (Such as alcohol) of traditional Chinese medicine, Western medicine, glucose, starch sugar, oral liquid, chemical industry, food, monosodium glutamate and dairy products. It can be used in the low temperature vacuum concentration of heat sensitive substances with small batches and large varieties.

### EQUIPMENT CHARACTERISTICS AND BENEFITS

1. Alcohol recovery: Large recovery capacity. Adopt vacuum concentration process. It enhances more than 5-10 times production capacity of the same kind of equipment. The energy consumption is 30% reduced. It has the characteristics such as small investment and high recovery benefit.
2. Liquid concentration: The equipment adopts external heating natural cycling mode and vacuum negative pressure evaporating mode, with instant evaporation and great concentrated specific gravity up to 1.3. The liquid materials are concentrated without foam under the completely sealed status. The liquid medicine concentrated from the equipment has no pollution, and has strong flavor of medicine. The cleaning is convenient. Just open the upper and lower covers of the heater for the cleaning. The operation is convenient and the space is small. The heater and evaporator adopt stainless steel heat preservation structure. The heat preservation adopts polyurethane foaming and the exterior surface adopts grinding semi-luster polishing. It is in accordance with GMP medicine standard.

## SNH(ZN)系列真空减压浓缩器 SNH(ZN) SERIES VACUUM PRESSURE-RELIEF CONCENTRATOR



本设备适用于中药、西药、葡萄糖、淀粉糖、口服液、化工、食品、味精、乳品等物料浓缩与工业有机溶剂(如酒精)的回收,适用于批量小、品种多的热敏性物料的低真空浓缩。

### 设备特点与效益

1. 酒精回收: 回收能力大, 采用真空浓缩流程。比老型同类设备提高了5-10倍, 降低能耗30%, 具有投资小, 回收效益高的特点。
2. 浓缩液料: 本设备采用外加热自然型循环式与真空负压蒸发方式, 蒸发速度快, 浓缩比重可达1.3; 液料在全密封状态无泡沫浓缩, 本设备浓缩出来的药液, 具有无污染, 药味浓的特点, 而且清洗方便(打开加热器的上下盖即可进行清洗)。本设备操作简单, 占地面积小。加热器, 蒸发器采用不锈钢保温结构, 保温采用聚胺脂发泡, 外表面磨砂亚光处理, 符合GMP医药标准。

### 技术参数 TECHNICAL PARAMETERS

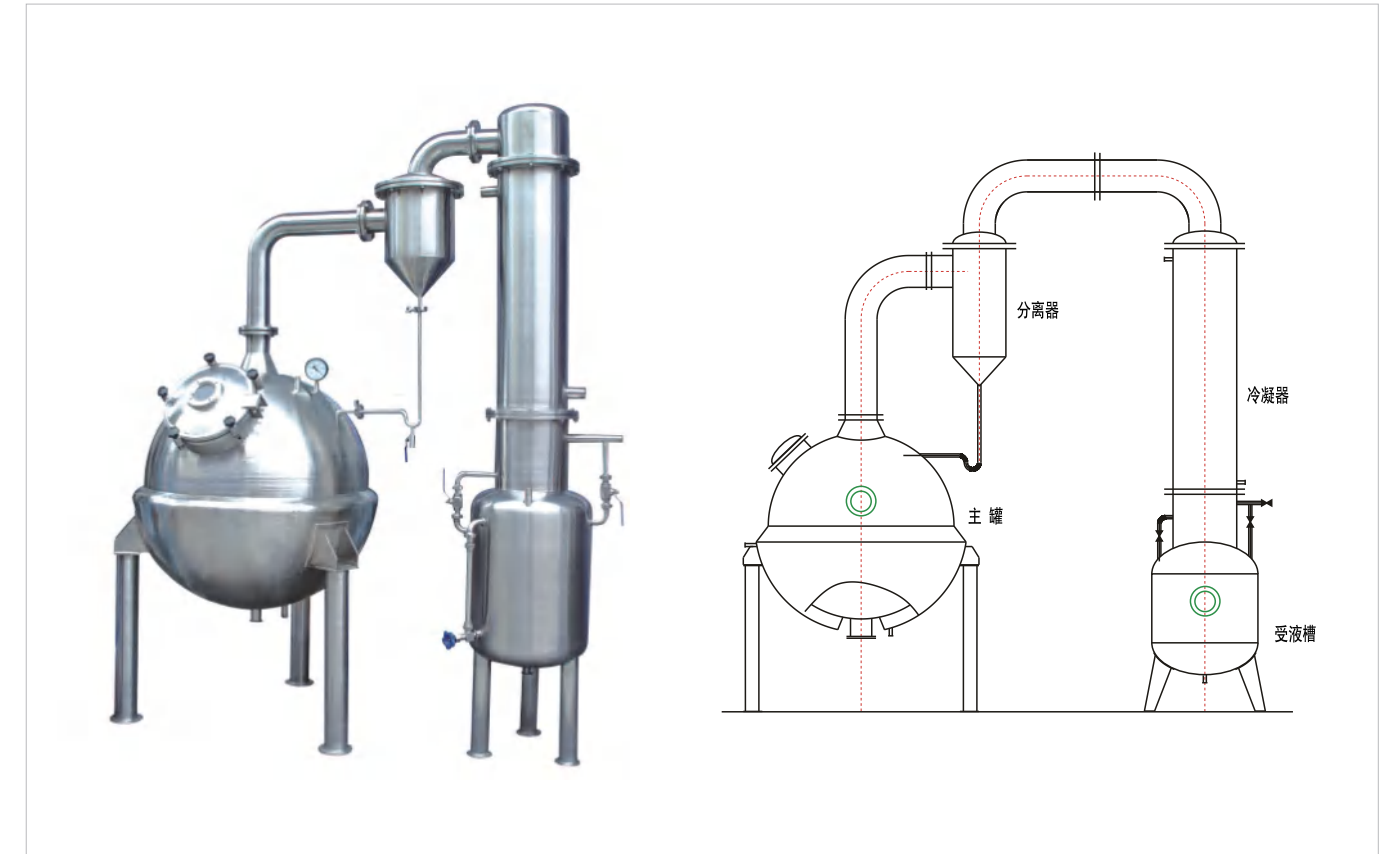
规格 Specification	型号 Model							
	ZN-50	ZN-100	ZN-200	ZN-300	ZN-500	ZN-700	ZN-1000	
容 积 Volume	50L	100L	200L	300L	500L	700L	1000L	
受液槽容积 Volume of liquid accepting tank	35L	45L	60L	76L	100L	125L	165L	
夹层压力 Pressure in jacket	0.098MPa							
真空度 Vacuum degree	0.06-0.07MPa							
加热面积 Heating area (m <sup>2</sup> )	0.25	0.59	0.8	1.1	1.45	1.8	2.2	
冷凝面积 Condensing area (m <sup>2</sup> )	1.2	1.7	2.4	3.0	3.3	3.6	4.1	
冷却面积 Cooling area (m <sup>2</sup> )	0.29	0.35	0.45	0.6	0.7	0.85	1.05	
外形尺寸 Outline dimension	长 Length	1200	1700	1700	1700	2100	2390	
	宽 Width	600	800	800	1000	1200	1300	
	高 Height	2200	2700	2700	3400	3400	3720	
耗水量 Water consumption (Kg/h)	3	5	6	8	10	11	15	

The equipment is applicable for the concentration and recovery of industrial organic solvent (Such as alcohol) of traditional Chinese medicine, Western medicine, glucose, starch sugar, oral liquid, chemical industry, food, monosodium glutamate and dairy products. It can be used in the low temperature vacuum concentration of heat sensitive substances with small batches and large varieties.

### EQUIPMENT CHARACTERISTICS AND BENEFITS

1. Alcohol reclamation: Large reclamation capacity and the vacuum concentration procedure make it's production capacity five to ten times of that of the old counterpart and can lower the energy consumption for 30%, featuring little investment and high reclamation profit.
2. Concentrated liquid material: The device uses the modes of outer heated natural cycle and vacuum negative pressure evaporation featuring swift evaporation with concentration proportion of 1.3; The liquid material concentrates without bubble under full seal state. The drug liquid after concentration by the device features non-contamination and thick drug taste and easy cleaning(it is just to open the up and down cover for cleaning.). The device is easy to handle and it needs a little foundation area for installation. The heater and evaporator use stainless steel for thermal purpose. The polyurethane is used as the thermal material. The surface is treated with sand grinding and surface polishing, meeting with the GMP standard.

## QN系列球形浓缩器 QN SERIES BALL CONCENTRATOR



球形浓缩罐主要由浓缩罐主体、冷凝器、汽液分离器、受液桶四个部分组成, 可用于制药、食品、化工等行业对料液的浓缩、蒸馏及有机溶剂的回收等工艺。由于采用减压浓缩, 故浓缩时间短, 且不会破坏热敏性物料的有效成份。本设备与物料接触部分均为不锈钢制造, 具有良好的耐腐蚀性能, 经久耐用, 符合GMP医药标准。

The roundness concentration tank, consisting of main body, condenser, gas-liquid separator and liquid receiving barrel, serves to concentrate, distill the material liquid and reclaim organic menstruum in the pharmacy, foodstuff and chemistry. The concentration under reduced pressure brings short time of concentration and prevent the destruction of the effective content in the thermal sensitive material. The fact that the part in contact with the material is made with stainless steel brings qualified anti-corrosion performance, meeting with the GMP standard.

### 技术参数 TECHNICAL PARAMETERS

规格 Specification	型号 Model			
	QN-300	QN-500	QN-700	QN-1000
蒸发量 Evaporation quantity (kg/h)	70	120	145	195
公称容积 Nominal volume (L)	300	500	700	1000
及球内径 Inside diameter of ball (mm)	800	990	1115	1250
蒸汽压 Steam pressure (MPa)	0.098			
真空度 Vacuum degree	0.06-0.07MPa			
加热面积 Heating area (m <sup>2</sup> )	1.1	1.6	2	2.5
冷凝面积 Condensing area (m <sup>2</sup> )	2.4	3.2	3.5	4.5
外形尺寸 Outline dimension	1900 × 1100 × 2300	2030 × 1200 × 2500	2100 × 1300 × 2500	2335 × 1520 × 2765
设备重量 Equipment weight (kg)	380	450	630	950
耗汽 Steam consumption (Kg/h)	77	132	159	214
耗水 Water consumption (t/h)	2	4	6	7
蒸汽进口 Steam inlet (m/m)	25	25	40	40
水进出口 Water inlet and outlet (m/m)	30	30	40	40

## 双效~多效降膜蒸发器 DOUBLE-EFFECT/MULTI-EFFECT FALLING FILM EVAPORATOR



## 双效~多效降膜蒸发器 DOUBLE-EFFECT/MULTI-EFFECT FALLING FILM EVAPORATOR

### 技术说明

本浓缩器适应于中药、西药、葡萄糖、淀粉、味精、乳品、化工等液料的浓缩，尤其适用于热敏性物类的低温真空浓缩。可连续进行杀菌、浓缩。我公司专业设计人员经过精心计算，周密设计改进后，比原来的特点效益更多。物料受热时间短，蒸发温度低，对产品的色泽、风味和营养成分影响小，特别适用于牛奶等热敏性物料的浓缩。

### TECHNICAL EXPLANATION

The concentrator is applicable to concentration of traditional Chinese medicine, Western medicine, glucose, starch, monosodium glutamate, dairy and chemical industry etc. It is especially suitable for low temperature vacuum concentration of heat sensitive substances. It can carry out continuous sterilization and concentration. After carefully calculated and precisely designed and improved by professional designers of our company, it has more features and benefits than the original one. The period of being heated of materials is short and the evaporation temperature is low. It has small influence on the products' color, flavor and nutritious content, which is especially applicable to concentration of milk etc. heat sensitive substances.

### 双效/多效降膜式蒸发器主要技术参数

#### DOUBLE-EFFECT/MULTI-EFFECT FALLING FILM EVAPORATOR TECHNICAL PARAMETERS

型号 Model	TLNS -30	TLNS -600	TLNS -700	TLNS -1250	TLNS -2000	TLNS -2500	TLNS -3000	TLNS -3200	TLNS -5000	TLNS -6400	TLNS -8000	TLNS -10000
水分蒸发量(kg/h) Moisture evaporation	30	600	700	1250	2000	2500	3000	3200	5000	6400	8000	10000
物料处理量 Material disposal quantity	40	800	940	1680	2688	3360	4032	4300	6720	8500	1100	13800
进料浓度(%) Inlet material strength	≥ 11.5	≥ 11.5	≥ 11.5	≥ 11.5	≥ 11.5	≥ 11.5	≥ 11.5	≥ 11.5	≥ 11.5	≥ 11.5	≥ 11.5	≥ 11.5
出料浓度(%) Outlet material strength	45-48	45-48	45-48	45-48	45-48	45-48	45-48	45-48	45-48	45-48	45-48	45-48
一效蒸发温度(°C) First effect evaporation temperature	68-72	68-72	68-72	68-72	68-72	68-72	68-72	68-72	68-72	68-72	68-72	68-72
二效蒸发温度(°C) Second effect evaporation temperature			45-52	45-52	45-52	45-52	45-52	55-60	55-60	55-60	55-64	55-60
三效蒸发温度(°C) Third effect evaporation temperature								44-48	44-48	44-48	44-48	44-48
四效蒸发温度(°C) Fourth effect evaporation temperature	17	410	280	500	800	1000	1200	900	1400	1700	1760	3080
蒸汽耗量(kg/h) Steam consumption	17	7.2	5	9	14	18	21	20	32	40	32	55
冷却水耗量(t/h) (16°C进,40°C出) Cooling water consumption (16°C inlet, 40°C outlet)	5	9	14.2	15	18	24.5	28	31	44.4	45	60	83
电机总功率(kw) Total motor power 外形尺寸(m) Outline dimensions	3x1.5 x4.8	5x2 x8	5x2.5 x8.5	5.5x3 x8.5	5.5x3 x8.5	5.5x4 x11	5x3.5 x11	6.5x4 x11	7.3x4 x12	7.3x4 x12	9.3x4 x12	11.5x5x 13.5

## 单效(双效、三效)升膜式蒸发器 SINGLE EFFECT (DOUBLE-EFFECT, TRIPLE-EFFECT) RISING FILM EVAPORATOR

### 工作原理

升膜蒸发器的构成是液体根据虹吸泵的原理进入加热管加热，流入到分离器后液体与蒸汽分离开来，通过循环管流回到蒸发器，形成闭路循环，因此，这种蒸发器又称外循环蒸发器。选用蒸发器，如果蒸发量大，可以采用多效装置，达到节省蒸汽的目的，降低能耗。

加热管由换热管组成，原料液经预热达到沸点或接近沸点后，由加热室底部引入，为高速上升的二次蒸汽带动，沿换热管内壁边流动边蒸发，在加热室顶部可达到所需的浓度，完成液由分离室底部排出，产生的二次蒸汽经设在上部分离板除去气泡、水珠、杂物后成为下一效的热源，这种蒸发器适用于处理蒸发量较大的稀液以及热敏性或易生泡的溶液。

### 用途

广泛用于石油、化工、医药、化肥、造纸、铝行业、味精、酿酒、制糖等领域。

### 设备说明

原料液预热后由蒸发器底部进入加热器管内，加热蒸汽在管外冷凝。当原料液受热后沸腾汽化，生成二次蒸汽在管内高速上升，带动料液沿管内壁成膜状向上流动，并不断地蒸发汽化，加速流动，气液混合物进入分离器后分离，浓缩后的完成液由分离器底部放出。这种蒸发器需要精心设计与操作，即加热管内的二次蒸汽应具有较高速度，并获较高的传热系数，使料液一次通过加热管即达到预定的浓缩要求。通常，常压下，管上端出口处速度以保持20~50m/s为宜，减压操作时，速度可达100~160m/s。

### 适用范围

升膜蒸发器适宜处理蒸发量较大，热敏性，粘度不大及易起沫的溶液，但不适于高粘度、有晶体析出和易结垢的溶液。

### WORKING PRINCIPLE

In the falling film evaporator, the liquid enters into the heating tube for heating by adopting the principle of siphon pump and flows into the separator. After that, the liquid and steam are separated and then return to the evaporator through the circulation pipe, and a closed circulation is formed. Therefore, this evaporator is also called external circulation evaporator. When it comes to the evaporator selection, if the evaporation is higher, the multi-effect device can be adopted to achieve the purpose of saving steam and reducing energy consumption.

The heating tube is composed of heat exchanging tubes. After it is preheated to reach or get close to the boiling point, the raw material liquid is introduced from the bottom of the heating chamber and is driven by the secondary steam that rises at a high speed. It will be evaporated while it flows along the interior wall of the heat exchanging tube. After it reaches the top of the heating chamber, the required strength is reached. The completed liquid will be discharged from the bottom of the separation chamber. The secondary steam produced will become the heat source of the next effect after foam, water drop and impurities are removed at the upper separation board. This evaporator is suitable for disposing thin solutions of higher evaporation, heat sensitive solutions or solutions easy to produce foam.



### USAGE

It is widely used for petrochemical industry, chemical industry, pharmacy, fertilizer, paper making, aluminum industry, monosodium glutamate, brewage, sugar making and etc.

### EQUIPMENT DESCRIPTIONS

After being preheated, the raw material liquid enters into the heating tube through the bottom of the evaporator. The heating steam carries out condensation outside the pipe. After the raw material liquid is heated, it is boiled and vaporized. The secondary steam produced will rise at a high speed in the tube and drive the material liquid to flow upwards along the interior wall of the tube in the form of film and carry out continuous evaporation and vaporization with accelerated flow. The gas-liquid mixture will be separated after it enters into the separator. The completed liquid after concentration will be discharged from the bottom of the separator. This evaporator needs elaborate design and operation. That is, the secondary steam in the heating tube shall have higher speed and higher heat transfer coefficient to make the material liquid reach the preset concentration requirement when it passes through the heating tube only once. Generally, under the normal pressure, the speed at the outlet at the top of the tube shall be kept about 20~50m/s, and during the pressure relief operation, the speed can reach 100~160m/s.

### APPLICATION RANGE

The falling film evaporator is suitable for disposing solutions of higher evaporation, heat sensitive solutions of low viscosity and solutions easy to produce foam, but not suitable for solutions of high viscosity, solutions having crystalline precipitation and solutions easy to agglomerate.

## Jh 系列酒精回收塔 JH SERIES ALCOHOL RECOVERY TOWER

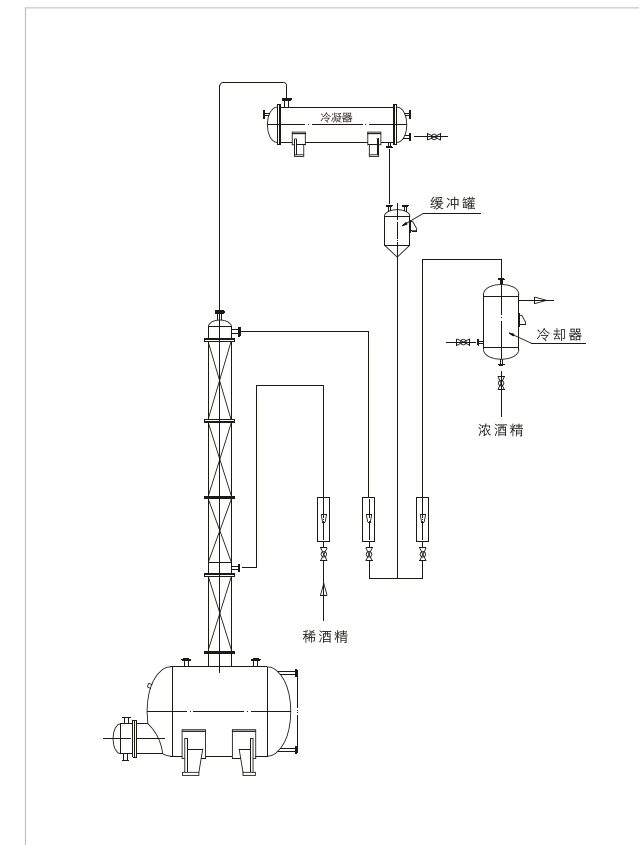
### 用途

酒精回收塔由塔釜、塔身、冷凝器、冷却器、缓冲罐五个部分组成，可用于制药、食品、化工等行业的稀酒精回收，本设备与物料接触部分均采用0Cr18Ni9不锈钢制造，具有良好的耐腐蚀性能，经久耐用，符合GMP标准要求。



### USAGE

This tower consists of 6 parts: Kettle, body, condenser, cooler, buffer tank, high storage tank. It's suitable for Pharmaceutical, Foodstuff, Chemical Industry to reclaim thin alcohol. Made by high quality stainless steel plate which has good corrosive-resistant & durable performance according to GMP standard.



### 技术参数 TECHNICAL PARAMETERS

规格 Specification	型号 Model	JH200	JH300	JH400	JH500	JH600	JH800
塔容积tower capacity(L)		640	1220	1450	2300	2500	3200
塔身高度tower body height(mm)		6000	7000	7000	7000	7500	7500
冷凝面积condensing area(m <sup>2</sup> )		5	9	12	18	25	45
冷却面积cooling area(m <sup>2</sup> )		1	1.5	2.0	4	6	8
换热面积heat-exchange area(m <sup>2</sup> )		1.5	4	6.5	10	15	26
回收能力recovery capacity(kg/h)		45~50	90~100	150~160	230~250	350~400	600~620
回收浓度concentration(%)		> 90					
填料形式packing material		陶瓷波纹或不锈钢波纹填料 Ceramic or SS moire packing material					
容器类别vessel type		一类 Category 1 pressure vessel					
设备重量 weight(kg)		1100	1900	2300	3800	4500	6800
外形尺寸overall size(mm)	L	2300	2600	2500	3000	3500	4200
	W	700	800	1000	1200	1400	1800
	H	7300	7500	9000	9000	10000	14000



## 原料反应釜 RAW MATERIAL REACTING KETTLE

### 反应罐

系列不锈钢反应罐是医药、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。

### 设备说明

- 1、设备采用316L或304优质不锈钢制作，内壁采用机械抛光，外壁采用304全焊接结构保温，外表面采用镜面或亚光处理。
- 2、夹套形式：全夹套、半圆盘管夹套、蜂窝夹套。
- 3、保温材料：填充珍珠棉、岩棉或聚氨酯发泡。
- 4、搅拌装置：顶部中(偏)心搅拌或侧搅拌；搅拌桨形式：框式、锚式、推进式、桨叶式、涡轮式等。
- 5、搅拌转速：10~120r/min(定速)或配置无级调速及变频调速。
- 6、液位计形式：宽式条状钢化玻璃视镜等。
- 7、设备配置：快开式人孔、视镜、视灯、温度计(数显式或表盘式)、取样口、空气呼吸器、CIP清洗器、料液进出口、备用口、冷热媒进出口等。
- 8、容器灭菌方式：可在线蒸汽灭菌(121℃)。
- 9、各进出管口、视镜、人孔等工艺开口与内罐体焊接处均采用翻边工艺圆弧过渡，光滑易清洗无死角，外表美观；并可按要求外壳体做滴水边设计。
- 10、其他一些非标特性均可按照客户要求定制。
- 11、容积：50L-20000L系列规格。



### REACTION TANK

The series stainless steel reaction tank is one of the reaction equipment commonly used in medicine, chemical industry and etc. It is a kind of device that mixes two (or more) kinds of liquids and solids or liquids of certain volume through the blender and promotes their chemical reaction. Generally, heat effect is generated accordingly and the heat exchange device will input the heat required or transfer the heat produced. The blending form of anchor type or frame type is often adopted to ensure even mixing of materials within a short time.

The blending rotation speed is equipped with frequency conversion speed adjustment, with temperature display or control.

### EQUIPMENT NOTES

1. The equipment is made of 316L or 304 high quality stainless steel. The inner wall adopts mechanical polishing and the outer wall adopts 304 full welding structure for heat preservation. The exterior surface adopts mirror polishing or matte treatment.
2. Jacket forms: including full jacket, semicircular coil pipe jacket and honeycomb jacket.
3. Heat preservation materials: filled pearl cotton, rock wool or PU foam.
4. Blending device: top center (eccentric) blending or side blending; blending paddle forms: frame type, anchor type, push type, blade type, turbine type and etc.
5. Blending rotation speed: 10~120r/min (fixed speed) or allocated with stepless speed adjustment and frequency conversion speed adjustment.
6. Liquid level indicator: wide bar-shaped tempered sight glass and etc.
7. Equipment configurations: rapid open type manhole, sight glass, view lamp, thermometer (digital indication type or dial plate type), sampling vent, air spiracle, CIP cleaner, liquid material inlet and outlet, spare vent, cold and hot media inlet and outlet and etc.
8. Vessel sterilizing mode: SIP (121℃) is available.
9. The process of edge turning arc transition is adopted at the places where the internal tank body is welded with all inlet and outlet pipe mouths, sight glasses, manholes and other technological holes, which are smooth with easy cleaning, beautiful appearance and without dead corner. The design of water dripping edge can be made for the shell according to requirements.
10. Other non-standard features can be customized according to customer requirements.
11. Volume: specifications within the range of 50L-20000L.

## JC 酒精沉淀罐 JC SERIES ALCOHOL DEPOSITION TANKER

### 用途

本设备适用于中药、口服液、食品、保健品、化工等的酒精沉淀，酒精沉淀罐系醇沉(亦称换溶或醇杆)旧工艺开发的专用设备，主要用于中药水煎液浓缩后浓缩进行冷冻灌温酒精沉淀的操作，也可用中药提后浓缩液进行水沉淀的操作。

### USAGE

The equipment is suitable for alcohol sediment in Chinese medicine, aoral liquid, foodstuff, health-protective products and chemical industry. Alcohol sediment is developed from traditional technology, mainly used for freeze Chinese medicine liquid being fried and condensed or to operate warm alcohol sediment, also can be used to operate water sediment after Chinese herbs being extracted.



### 技术参数 TECHNICAL PARAMETERS

型号规格 Model and specification	JC-300	JC-500	JC-1000	JC-1500	JC-2000	JC-3000	JC-6000
容积 Volume (m <sup>3</sup> )	0.3	0.5	1.0	1.5	2.0	3.0	6.0
换热面积 Heat exchanging area (m <sup>2</sup> )	1.8	3.0	4.5	6.5	7.5	8.5	13
工作温度 Working temperature (°C)	常温 ~-15						
夹套设计压力 Jacket designed pressure (MPa)	0.09 ~ 0.4						
罐内压力 Pressure inside pot (MPa)	常压						
搅拌功率 Agitator motor (KW)	0.75	0.75	1.5	2.2	2.2	3.0	5.0
搅拌转速 Agitator rotary speed (r/min)	72	72	72	72	72	72	125
外形尺寸 Dimension (mm)	内径 Inside diameter	600	800	1000	1200	1300	1600
	外径 Outside diameter	800	1000	1200	1400	1500	2000
	高 Height	900	1350	1700	2200	2700	2700



### 设备特点

本设备是由附夹套的椭圆封头。锥形底的圆筒体，内安装三叶式搅拌以及特殊的微调旋出液管等组装而成，中药水煎浓缩采用加入酒精配成一定醇度的液体，然后常温，低温冷冻沉降进行液固分离，以提高中药提取液的纯度及澄明度。本设备全部选用不锈钢 SUS304 制造，配有高压水自动喷淋清洗系统，夹套中可通低温冷却水，传动部位采用机械密封、防爆电机确保生产安全，符合GMP医药标准，设备表面镜面或亚光处理。

### EQUIPMENT CHARACTERISTICS

The device includes the ellipse seal head with clip sleeve, taped-shaped base of cylinder, inner-installed three-paddle miller and special finely regulated revolve-out liquid pipe, etc. The mode for water-decocting and concentration of China traditional drug as follow. First fill the alcohol to form mixture, secondly under low temperature freeze to make deposition to separate the solid from the liquid to improve the purity and clearness of the extraction liquid of Chinese traditional drug. The device is made of stainless steel of SUS304. The high pressure automatic spray & cleaning system is available. It is available to fill the low temperature of cooling water through the clip sleeve. The mechanical seal in the transmission part and the explosion-proof motor can ensure the security of the production process, meeting with the GMP standard. The surface is treated with surface mirror or darkness treatment.

## NX 型浓稀配罐 NX MODEL THICK THIN MIXING TANK

### 用途

主要用于大输液、小针剂及其它溶解、灭菌与调配作用。

### 性能

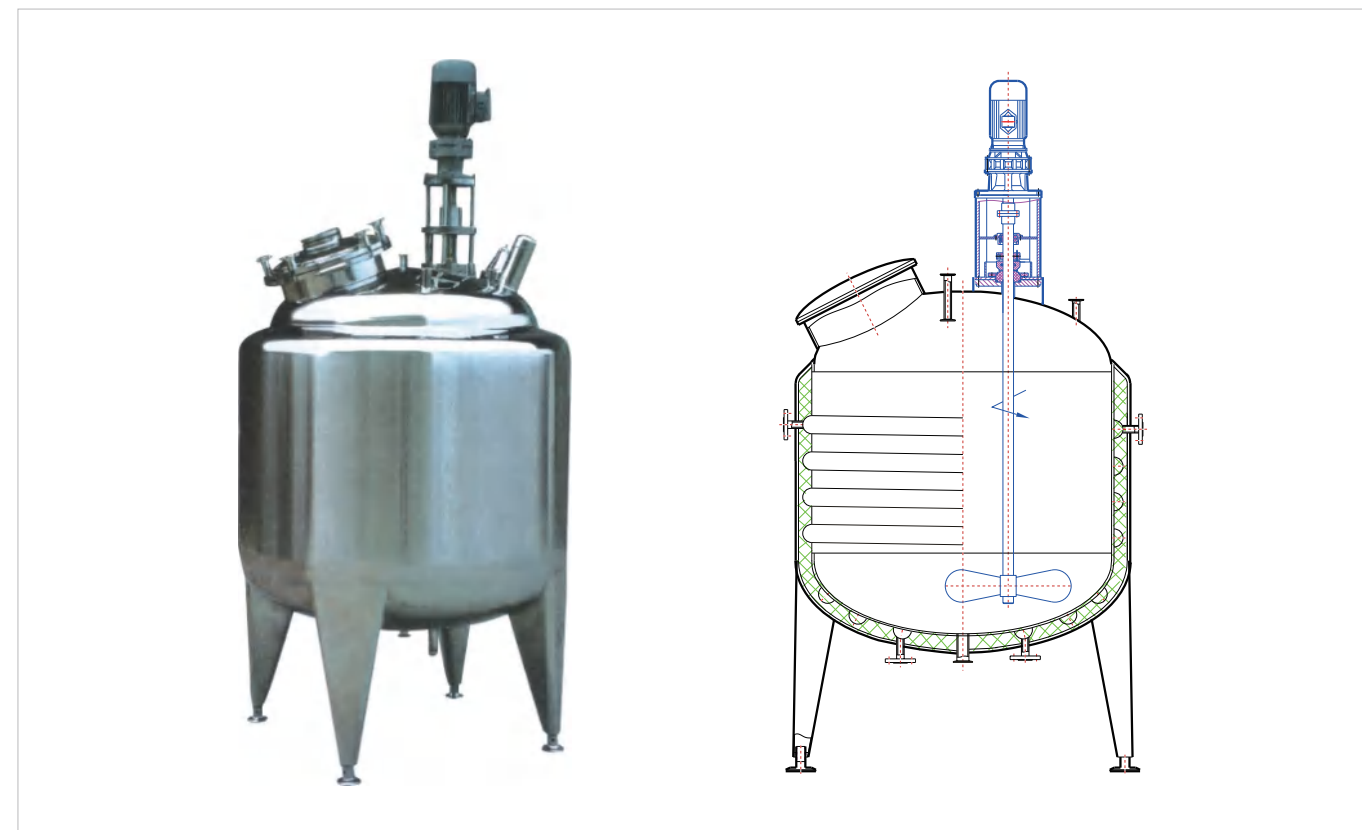
1. 本系列设备具有加热、冷却和保温、搅拌调配功能，容器按《钢制压力容器技术条件》进行设计、加工。
2. 规格有 0.05m<sup>3</sup>–10m<sup>3</sup> 不同容积供选择，还可以根据用户实际工艺需要进行设计、加工。
3. 采用夹层结构，具有加热面积大、焊接少等优点。
4. 轴封采用卫生级硬质合金与碳化硅 204 平衡型机械密封，耐磨耐压，减速机转速为 60–82 转 / 分。也可采用变频器来调速。
5. 接口采用国际通用标准 ISO 标准快装卡盘式，材料为进口 316L 或 304，内表面镜面抛光 Ra ≤ 0.28 μm，外表面亚光或镜面抛光处理。
6. 液位计有玻璃管液位计、静压传感器式液位计、超声波液位计可供选择。
7. 结构形式分为上下椭圆封头或下反凸底上椭圆封头结构，保证药液不残留。
8. 夹套结构形式分为标准夹套，绕带式夹套，蜂窝夹套三种供选择。此种结构为上下椭圆封头与标准夹层夹套组合，具有夹套空间大，加热面积大，减少焊缝，内胆平整保证物料不挂壁。外形美，结构简单耐用等优点。其缺点为高度较高。另将减速机如改为蜗轮蜗杆卧式减速机可降低高度 250–330mm 左右。

### USAGE

It is mainly used for the large transfusion, small injection as well as solution, sterilization and preparation etc.

### PERFORMANCE

1. The series of equipment have the functions of heating, cooling, heat preservation and mixing preparation. The vessel carries out design and processing according to "Technical condition for steel made pressure vessel".
2. The specifications for selection are 0.05m<sup>3</sup>–10m<sup>3</sup> different volumes. It can also carry out the design and processing according to the actual technology requirements of customers.
3. Adopt interlayer structure, with the advantages such as large heating area and small welding etc.
4. The shaft seal adopts sanitary level hard alloy and silicon carbide 204 balancing mechanical seal, which is anti-abrasion and anti-press. The rotation speed is 60–82 r/m, and the speed can also be regulated by frequency converter.
5. The interface adopts internationally general-use standard ISO standard rapid installation chuck type, and the material is imported 316L or 304. The mirror polishing of internal surface Ra ≤ 0.28 μm, and the external surface adopts semi-luster polishing or mirror polishing treatment.
6. The liquid meters for selection are glass tube liquid meter, static pressure sensor type liquid meter and supersonic wave liquid meter.
7. The structure forms are divided into upward and downward round sealing head or downward reverse convex bottom upward round sealing head structure, which can guarantee no residual of liquid medicine.
8. The jacket structure forms for selection are divided into standard jacket, external coiled tube jacket, and honeycombed jacket. The structure is the combination of upward and downward round sealing head and standard layer jacket. It has large jacket space and large heating area, which can reduce the welding seam. The internal bladder is neat, which can guarantee that the material will not be hung on the wall. It has advantages such as beautiful appearance, simple structure and durability. The disadvantage is that it is too high. Additionally, if changing the reducer as horizontal worm gear reducer, the height can be reduced for about 250–330mm.



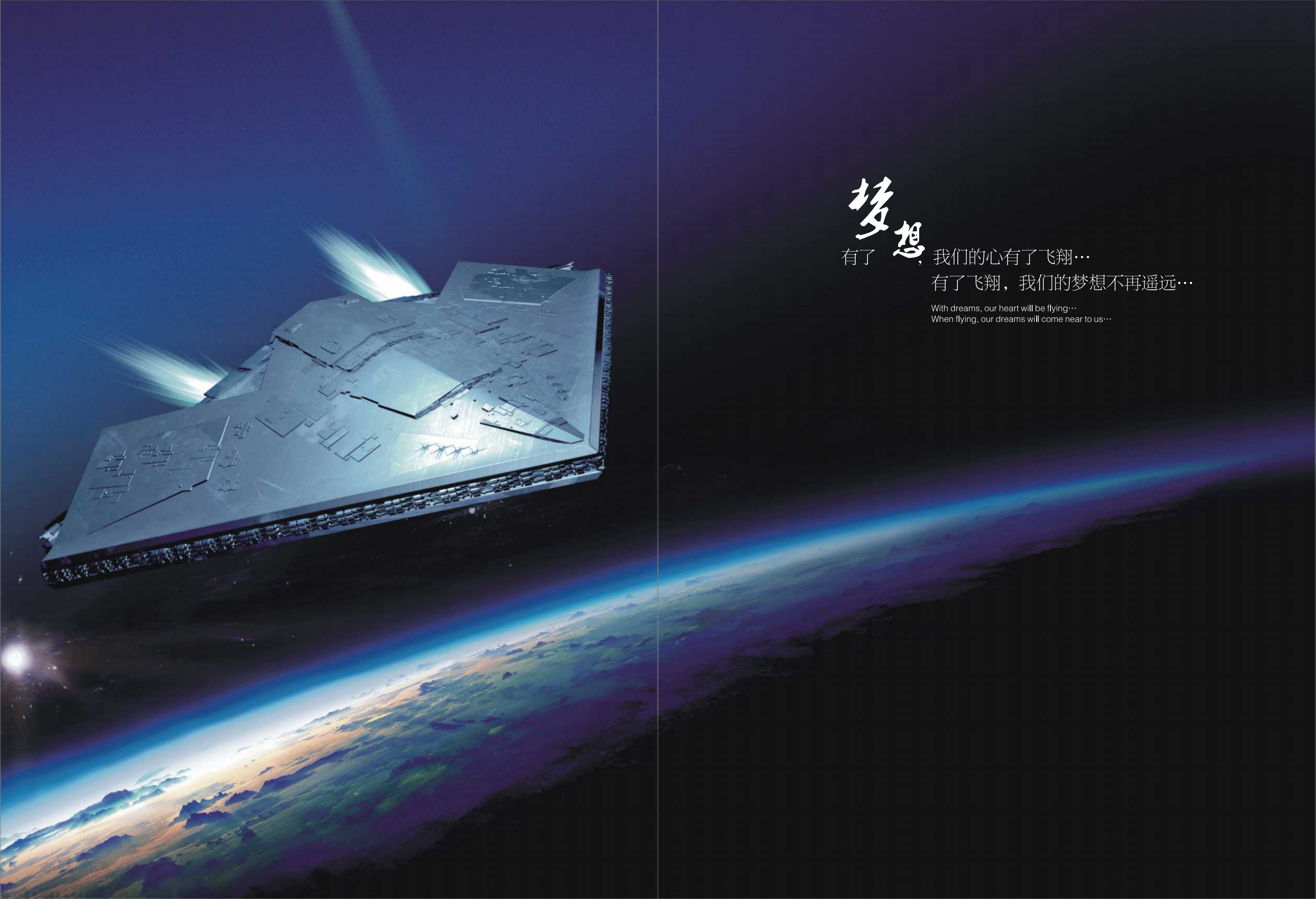
## 针剂配液机组 INJECTION LIQUID PRESCRIPTION ASSEMBLE



该系列容器适用于制药行业的浓/稀配之用，罐体设有夹层，可加热、冷却，内表面采用电解镜面抛光，封头(锥形)均经旋压加工、符合GMP标准，采用316L材料制作。

### 技术参数 TECHNICAL PARAMETERS

规格 Specification 型号 Model	浓配罐 Thick dispenser tank	药液泵 Liquid medicine pump	浓配过滤器 Filter for thick dispensing	稀配罐 Thin dispenser tank	稀配过滤器 Filter for thin dispensing	高分子 过滤器 Macro- molecule filter	管路 Pipeline	阀门 Valve	配件 Fittings	材质 Material
1 型 1Model	500L	3T/h	3 芯	1000L	2 芯	1 芯	Φ 32	DN25	弯头三通 呼吸器过 滤器压力 表温度计 等	304/316
2 型 2Model	1000L	3T/h	3 芯	2000L	2 芯	1 芯	Φ 38	DN32		304/316
3 型 3Model	1000L	3T/h	5 芯		4 芯	1 芯	Φ 38	DN32		304/316
4 型 4Model	1000L	5T/h	7 芯	2000L	6 芯	2 芯	Φ 38	DN32		304/316
5 型 5Model	1500L	5T/h	7 芯	3000L	6 芯	2 芯	Φ 38	DN32		304/316
6 型 6Model	2000L	8T/h	8 芯	4000L	7 芯	2 芯	Φ 38	DN32		304/316
7 型 7Model	2500L	10T/h	10 芯	5000L	8 芯	2 芯	Φ 38	DN32		304/316



# 梦想

有了梦想，我们的心有了飞翔…

有了飞翔，我们的梦想不再遥远…

With dreams, our heart will be flying…

When flying, our dreams will come near to us…

## JG 卫生级发酵罐系列 JG SANITARY FERMENTING TANK SERIES

### 1、罐体系统:

- 罐体材质: 316L或304不锈钢;
  - 罐体设计压力: 0.3MPa;
  - 夹套设计压力: 0.35MPa;
  - 罐体结构: 带有发酵罐专用取样、放料阀, 带有标准温度、PH、DO 传感器插口;
  - 罐盖结构: 标准泡沫电极插口1个; 视灯视镜口1个; 通用补料接口3个; 接种口1个; 排气口1个;
  - 表面处理: 不锈钢内外镜面抛光, 抛光精度Ra0.4;
- ### 2、灭菌方式: 在位蒸汽灭菌;
- ### 3、搅拌系统: 三层六平叶发酵专用标准桨; 控制范围: 50~300rpm, 控制精度: ±1%;
- ### 4、温度控制: 冷却水温度+5~65℃; 精度: ±0.1℃;
- ### 5、pH控制: 瑞士梅特勒pH电极及屏蔽导线; 范围: 2~12pH, 控制精度: ±0.02pH;
- ### 6、溶氧控制: 瑞士梅特勒DO电极及屏蔽导线; 范围: 5~100%, 控制精度: ±2%;
- ### 7、泡沫控制: 自动检测泡沫添加消泡剂; 灵敏度100~100000;
- ### 8、补料控制: 蠕动泵自动流加; 范围: 0~5L/min, 控制精度: ±2%;
- ### 9、空气流量控制: 转子流量计手动调节; 范围: 0~5000L/min;

### 1. Tank Body System:

- Tank body material: 316L or 304 stainless steel;
  - tank body designed pressure: 0.3MPa;
  - jacket designed pressure: 0.35MPa;
  - Tank body structure: provided with special sampling valve and discharging valve for fermenting tank, as well as standard temperature, PH, and DO sensor vents.
  - Tank cover structure: 1 standard foam pole socket, 1 view lamp and sight glass vent, 3 universal material adding vents, 1 vaccination vent, 1 air vent.
  - Surface treatment: stainless steel interior and exterior mirror polishing with polishing fineness of Ra0.4.
- ### 2. Sterilization method: in-place steam sterilization;
- ### 3. Blending system: special standard paddle for fermentation with three layers and six flat vanes; control range: 50~300rpm, control precision: ±1%;
- ### 4. Temperature control: cooling water temperature +5~65℃; precision: ±0.1℃;
- ### 5. pH control: Swiss Mettler pH pole and shielding conductor; range: 2~12pH, control precision: ±0.02pH;
- ### 6. Oxygen dissolution control: Swiss Mettler DO pole and shielding conductor; range: 5~100%, control precision: ±2%;
- ### 7. Foam control: automatic foam detection and defoamer adding; sensitivity 100~100000
- ### 8. Material adding control: creeping pump automatic adding; range: 0~5L/min, control precision: ±2%;
- ### 9. Air flow control: rotor flowmeter manual adjustment; range: 0~5000L/min.



### 技术参数 TECHNICAL PARAMETERS

规格	型号	100L	200L	500L	1m <sup>3</sup>	2m <sup>3</sup>	5m <sup>3</sup>	10m <sup>3</sup>	20m <sup>3</sup>	50m <sup>3</sup>	
发酵罐直径 (mm)		400	500	700	900	1200	1500	1800	2300	3100	
发酵罐高 (mm)		2000	2300	2650	2900	3800	4480	5250	6550	8550	
罐内压力 (MPa)		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
夹套压力 (MPa)		0.3	0.3	0.3	0.3	0.3	0.3	管0.3	管0.3	管0.3	
搅拌桨数		2	2	2	2	2	3	3	4	4	
搅拌转速 (r/min)		400	360	265	220	180	160	145	125	110	
电机功率 (kw)		0.55	0.75	1.5	2.2	4	7.5	17	30	55	
冷却方式		夹套					列管				

注: 根据客户需要选择控制的配置

Note: The control configurations can be selected according to customer requirements.

## 搅拌冷热缸系列(老化缸) BLENDING COLD & HOT TANK SERIES (AGEING TANK)



### 使用范围

- ◆ 可作配料罐、混料罐、调配罐、发酵罐、消毒缸、老化缸等。
- ◆ 适用于食品、乳制品、果汁饮料、医药化工及生物工程等领域。

### 结构特征

- ◆ 采用内筒体、夹套加外包, 中间采用聚氨酯发泡保温材料结构。
- ◆ 材料均为卫生级不锈钢。
- ◆ 结构设计极具人性化, 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。

### 罐体配置

- ◆ 快开式人孔。
- ◆ 各种型式的CIP清洗器。
- ◆ 卫生级呼吸器。
- ◆ 可调式三角支腿。
- ◆ 可拆卸进料管套件。
- ◆ 温度计(根据客户要求配置)。
- ◆ 爬梯(根据客户要求配置)。
- ◆ 立式搅拌器(根据客户要求配置桨式或者框式)。
- ◆ 夹套(根据客户要求配置米勒板、整体夹套或者绕带式夹套)。
- ◆ 液位计及液位控制(根据客户要求配置)。
- ◆ 防涡板。

### APPLICABLE RANGE

- ◆ Used as blending tank, mixing tank, preparation tank, fermentation tank, disinfection tank and ageing tank etc.
- ◆ Ideal in fields such as foods, dairy products, fruit juice beverages, pharmacy, chemical industry and biological engineering etc.

### STRUCTURE CHARACTERISTICS

- ◆ Composed of internal tank body, jacket and external coating, with PU foam being adopted as the heat preservation material between them.
- ◆ Made of sanitary stainless steel.
- ◆ User-friendly structure design and easy to operate.
- ◆ The transition area of interior wall on the tank adopts arc transition to ensure no dead corner of sanitation.

### CONFIGURATION OF TANK

- ◆ Quick open manhole.
- ◆ Various models of CIP cleaning machines.
- ◆ Sanitary spiracle.
- ◆ Adjustable triangular bracket.
- ◆ Dismountable feeding pipe assembly
- ◆ Thermometer (configured according to customer requirements).
- ◆ Ladder (configured according to customer requirements).
- ◆ Vertical blender (paddle type or frame type can be available according to customer requirements).
- ◆ Jacket (Miller board, integral coil pipe jacket or tape-wound jacket can be available according to customer requirements).
- ◆ Liquid level indicator and level controller (configured according to customer requirements).
- ◆ Eddy-proof board.

## 储罐 STORAGE TANK



### 使用范围

1. 可作储液罐、混料罐、暂存罐、储水罐等。
2. 适用于食品、乳制品、果汁饮料、医药化工及生物工程等领域。

### 结构特征

1. 采用单层不锈钢结构。
2. 材料均为卫生级不锈钢SUS304或316L。
3. 结构设计极具人性化，可操作性强。
4. 筒体内壁过渡段采用圆弧过渡，保证卫生无死角。

### 罐体配置

1. 快开式人孔。
2. 各种型式的CIP清洗器。
3. 防蚊虫卫生级透气罩。
4. 可调式三角支腿。
5. 可拆卸进料管套件。
6. 温度计(根据客户要求配置)。
7. 爬梯(根据客户要求配置)。
8. 液位计及液位控制(根据客户要求配置)。
9. 防涡板。

### APPLICABLE RANGE

1. Used as liquid storage tank, liquid composing tank, temporary storage tank and water storage tank etc.
2. Ideal in fields such as foods, dairy products, fruit juice beverages, pharmacy, chemical industry and biological engineering etc.

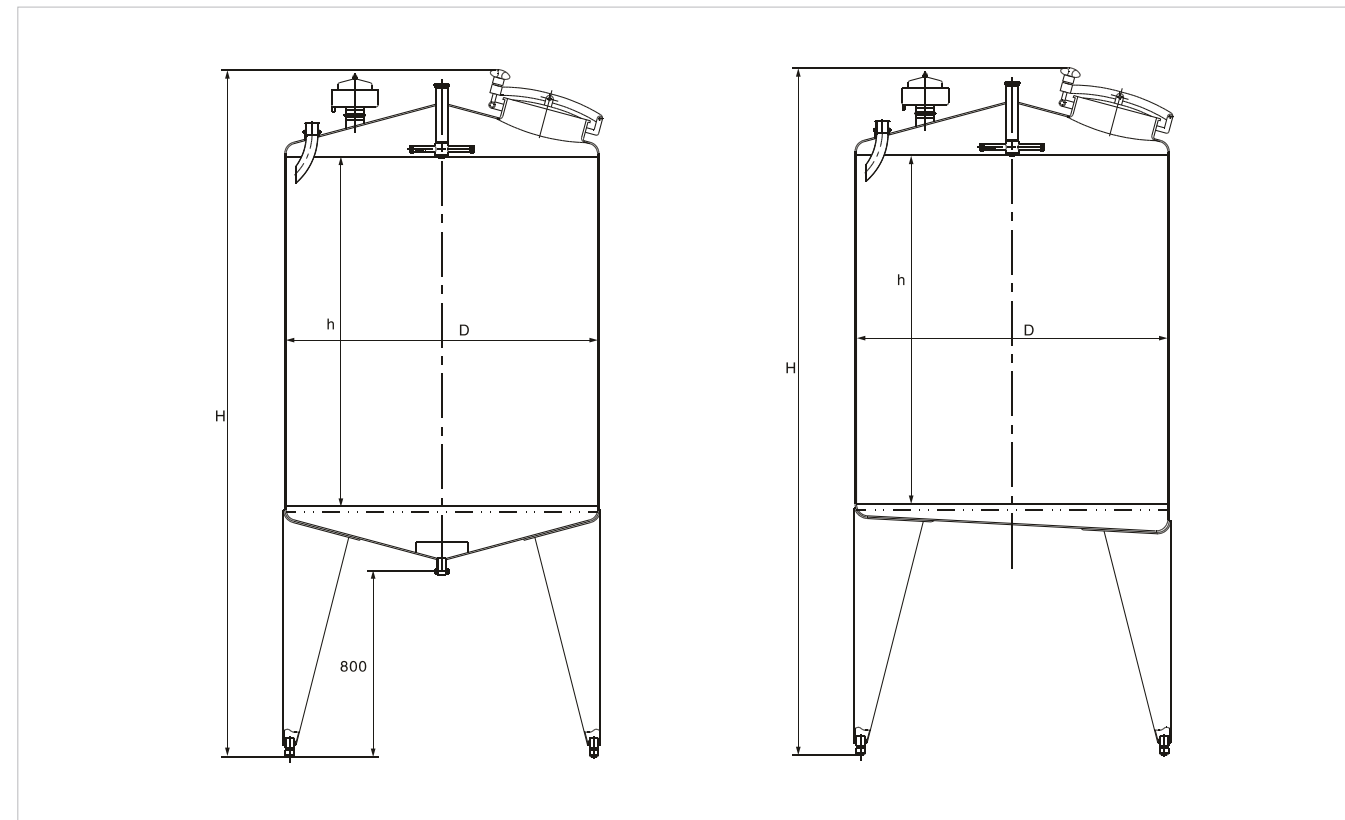
### STRUCTURE CHARACTERISTICS

1. Made of single-layer stainless steel structure.
2. Materials are all sanitary stainless steel SUS304/316L.
3. Humanized structure design and easy to operate.
4. Transition area of interior wall on tank adopts arc for transition to ensure no dead corner of sanitation.

### CONFIGURATION OF TANK

1. Quick open manhole.
2. Various types of CIP cleaners.
3. Fly and insect resistant sanitary breathing cover.
4. Adjustable triangular bracket.
5. Dismountable materials input pipe assembly
6. Thermometer (According to customer requirements).
7. Ladder (According to customer requirements).
8. Liquid level meter and level controller (According to customer requirements).
9. Eddy-proof board.

## 储罐 STORAGE TANK



### 技术参数 TECHNICAL PARAMETERS

有效容积 Effective volume	筒体尺寸(Dx h) Dimension of tank	总高(H) Total height	进/出口口径 Diameter of inlet & outlet
(L)	(mm × mm)	(mm)	(mm)
500	840 × 1000	2250	38
600	920 × 1000	2300	38
700	990 × 1000	2300	38
800	950 × 1220	2500	38
900	1010 × 1220	2500	38
1000	1060 × 1220	2550	51
1500	1160 × 1500	2850	51
2000	1340 × 1500	2900	51
3000	1410 × 2000	3400	51
4000	1620 × 2000	3450	51
5000	1810 × 2000	3500	51
6000	1980 × 2000	3550	51
7000	1930 × 2440	4000	51
8000	2060 × 2440	4000	51
9000	2180 × 2440	4050	51
10000	2300 × 2440	4050	51
12000	2270 × 3000	4600	51
15000	2530 × 3000	4700	51
20000	2640 × 3660	5400	51

如客户提出特殊要求可根据客户要求定作。总高(H)是根据出口高度800mm而得出的数据，如改变出口高度，总高(H)作相应调整。  
It can be made according to special requirements of customers. Total height (H) is in accordance with outlet height of 800 mm. If outlet height is changed, then total height (H) shall also be adjusted.

## 侧搅拌储罐系列 SIDE BLENDING STORAGE TANK SERIES



### 使用范围

1. 可作储液罐、混料罐、暂存罐、配料罐等。
2. 适用于食品、乳制品、果汁饮料、医药化工及生物工程等领域。

### 结构特征

1. 采用内筒体加外包，中间采用聚氨酯发泡保温材料结构。
2. 材料均为卫生级不锈钢SUS304或316L。
3. 结构设计极具人性化，可操作性强。
4. 筒体内壁过渡段采用圆弧过渡，保证卫生无死角。

### 罐体配置

1. 快开式人孔。
2. 各种外形的CIP清洗器。
3. 防蚊虫卫生级透气罩。
4. 可调式三角支腿。
5. 可拆卸进料管套件。
6. 温度计（根据客户要求配置）。
7. 爬梯（根据客户要求配置）。
8. 推进式侧搅拌。
9. 液位计及液位控制（根据客户要求配置）。
10. 防涡板。

### APPLICABLE RANGE

1. Used as liquid storage tank, liquid composing tank, temporary storage tank and liquid blending tank etc.
2. Ideal in fields such as foods, dairy products, fruit juice beverages, pharmacy, chemical industry and biological engineering etc.

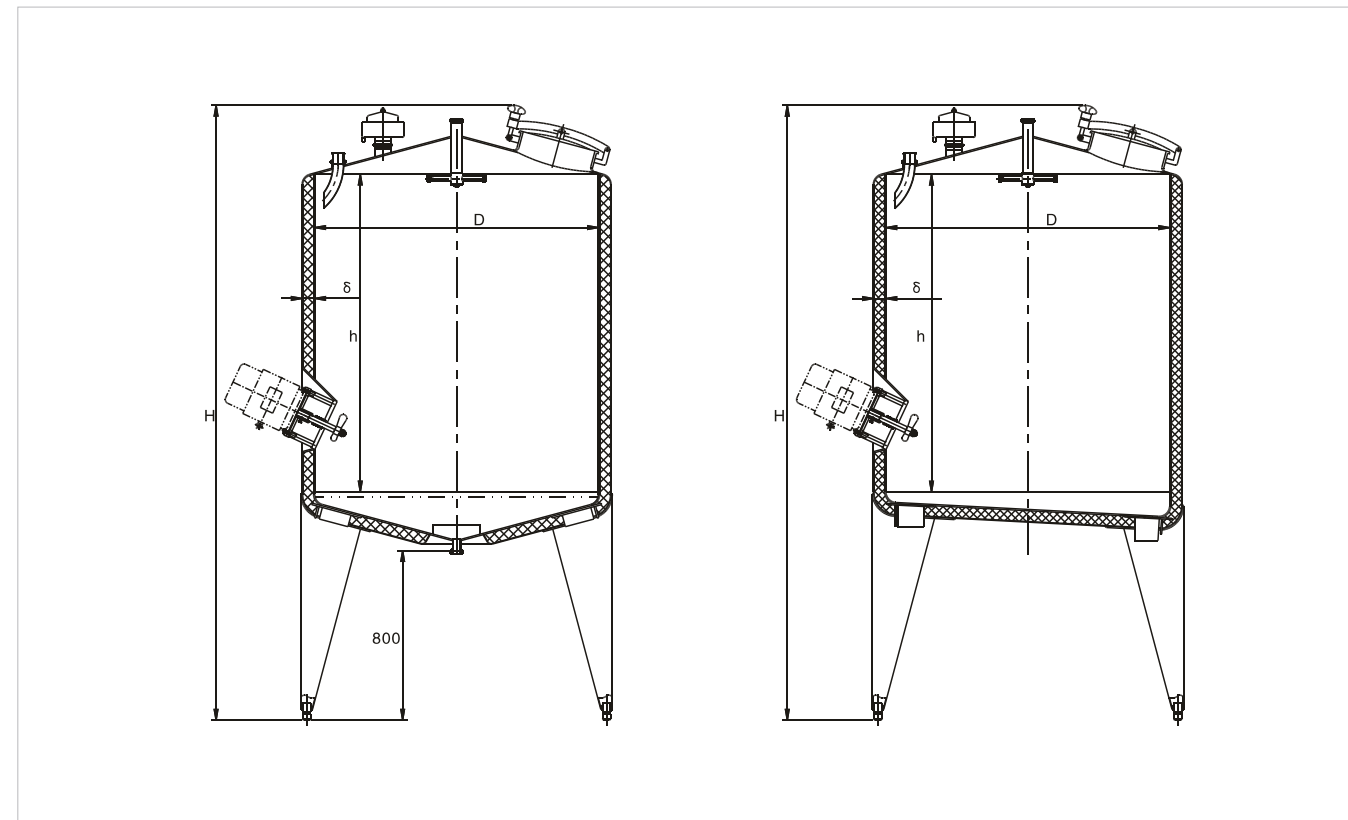
### STRUCTURE CHARACTERISTICS

1. Adopt structure of internal tank and external package, with heat preservation materials inside
2. Materials are all sanitary stainless steel SUS304/316L.
3. Humanized structure design and easy to operate.
4. Transition area of interior wall on tank adopts arc for transition to ensure no dead corner of sanitation.

### CONFIGURATION OF TANK

1. Quick open manhole.
2. Various types of CIP cleaners.
3. Fly and insect resistant sanitary breathing cover.
4. Adjustable triangular bracket.
5. Dismountable materials input pipe assembly
6. Thermometer (According to customer requirements).
7. Ladder (According to customer requirements).
8. Advancing side blender
9. Liquid level meter and level controller ( According to customer requirements).
10. Eddy-proof board.

## 侧搅拌储罐系列 SIDE BLENDING STORAGE TANK SERIES



### 技术参数 TECHNICAL PARAMETERS

有效容积 Effective volume	筒体尺寸(Dx h) Dimension of tank	总高(H) Total height	进出口口径 Diameter of inlet & outlet	保温层 Heat preservation layer	电机功率 Motor power	搅拌速度 Blending speed
(L)	(mmxmm)	(mm)	(mm)	(mm)	(kw)	(r/min)
1000	1060x1220	2550	51	60	0.75	960
1500	1160x1500	2850	51	60	1.1	960
2000	1340x1500	2900	51	60	1.1	960
3000	1410x2000	3400	51	60	1.5	960
4000	1620x2000	3450	51	60	1.5	960
5000	1810x2000	3500	51	60	2.2	960
6000	1980x2000	3550	51	60	2.2	960
7000	1930x2440	4000	51	60	3	960
8000	2060x2440	4000	51	60	3	960
9000	2180x2440	4050	51	60	3	960
10000	2300x2440	4050	51	60	3	960
12000	2270x3000	4600	51	60	4	960
15000	2530x3000	4700	51	60	4	960
20000	2640x3660	5400	51	60	5.5	960

如客户提出特殊要求可根据客户要求定作。总高(H)是根据出料口高度800mm而得出的数据，如改变出料口高度，总高(H)作相应调整。  
It can be made according to special requirements of customers. Total height (H) is in accordance with outlet height of 800 mm. If outlet height is changed, then total height (H) shall also be adjusted.

## 立式搅拌储罐系列 VERTICAL BLENDING STORAGE TANK SERIES



### 使用范围

1. 可作储液罐、混料罐、暂存罐、调配罐等。
2. 适用于食品、乳制品、果汁饮料、医药化工及生物工程等领域。

### 结构特征

1. 采用内筒体加外包，带夹套，采用聚氨酯发泡保温材料结构。
2. 材料均为卫生级不锈钢SUS304或316L。
3. 结构设计极具人性化，可操作性强。
4. 筒体内壁过渡段采用圆弧过渡，保证卫生无死角。

### 罐体配置

1. 快开式人孔。
2. 各种外形的CIP清洗器。
3. 防蝇虫卫生级透气罩。
4. 可调式三角支腿。
5. 可拆卸进料管套件。
6. 温度计（根据客户要求配置）。
7. 爬梯（根据客户要求配置）。
8. 立式搅拌器（根据客户要求配置桨式或者框式）。
9. 防涡板。

### APPLICABLE RANGE

1. Used as liquid storage tank, liquid composing tank, temporary storage tank and liquid blending tank etc.
2. Ideal in fields such as foods, dairy products, fruit juice beverages, pharmacy, chemical industry and biological engineering etc.

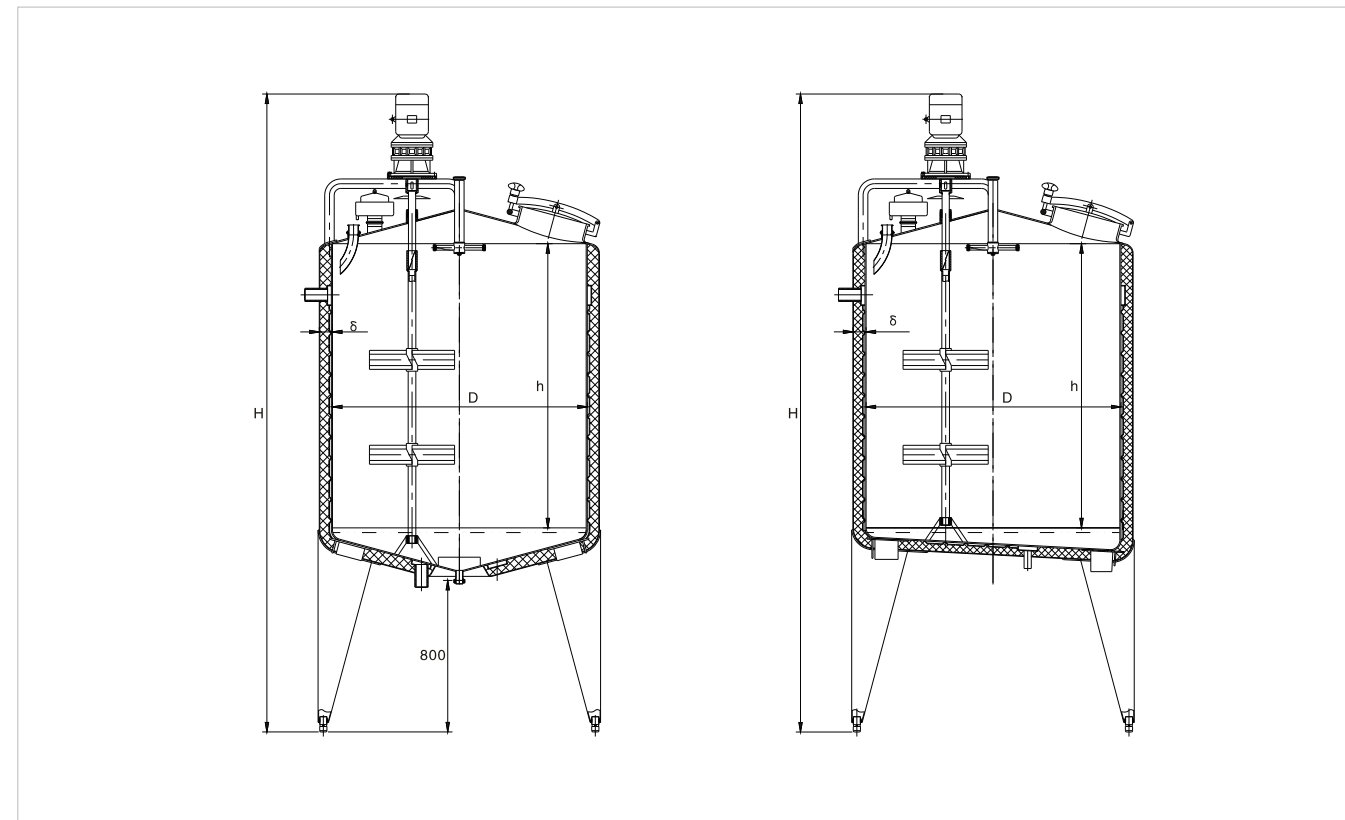
### STRUCTURE CHARACTERISTICS

1. Composed of internal tank body, jacket and external coating, with PU foam being adopted as the heat preservation material between them.
2. Made of sanitary stainless steel SUS304 or 316L.
3. User-friendly structure design and easy to operate.
4. The transition area of interior wall on the tank adopts arc transition to ensure no dead corner of sanitation.

### CONFIGURATION OF TANK

1. Quick open manhole.
2. Various types of CIP cleaners.
3. Fly and insect resistant sanitary breathing cover.
4. Adjustable triangular bracket.
5. Dismountable materials input pipe assembly.
6. Thermometer (According to customer requirements).
7. Ladder (According to customer requirements).
8. Vertical blender (Paddle type or frame type are available if customers require).
9. Eddy-proof board.

## 立式搅拌储罐系列 VERTICAL BLENDING STORAGE TANK SERIES



### 技术参数 TECHNICAL PARAMETERS

有效容积 Effective volume	筒体尺寸(Dx h) Dimension of tank	总高(H) Total height	保温层 Heat preservation layer	进出料口径 Diameter of inlet & outlet	电机功率 Motor power	搅拌速度 Blending speed
(L)	(mmxmm)	(mm)	(mm)	(mm)	(kw)	(r/min)
500	840x1000	2750	60	38	0.55	常用转速 35、43、60 也可选用 无级变速减速机 或者双速减速机 Common rotation speed 35, 43, 60, stepless speed reducer or dual-speed reducer are also available
600	920x1000	2850	60	38	0.55	
700	990x1000	2850	60	38	0.55	
800	950x1220	3000	60	38	0.55	
900	1010x1220	3000	60	38	0.55	
1000	1060x1220	3150	60	51	0.75	
1500	1160x1500	3350	60	51	0.75	
2000	1340x1500	3410	60	51	1.1	
3000	1410x2000	4000	60	51	1.5	
4000	1620x2000	4250	60	51	1.5	
5000	1810x2000	4300	60	51	2.2	
6000	1980x2000	4550	60	51	2.2	
7000	1930x2440	5000	60	51	2.2	
8000	2060x2440	5000	60	51	3	
9000	2180x2440	5050	60	51	3	
10000	2300x2440	5050	60	51	3	
12000	2270x3000	5600	60	51	4	
15000	2530x3000	5700	60	51	4	
20000	2640x3660	6400	60	51	5.5	

如客户提出特殊要求可根据客户要求定作。总高(H)是根据出料口高度800mm而得出的数据，如改变出料口高度，总高(H)作相应调整。  
It can be made according to special requirements of customers. Total height (H) is in accordance with outlet height of 800 mm. If outlet height is changed, then total height (H) shall also be adjusted.

## 储存罐 STORAGE TANK



本设备广泛用于精细化工及生物工程等行业，设备罐体与物料接触部分均采用SUS304材质，支架采用Q235-B，外喷油漆。

设备主要由罐体与支架组成，顶部带快开式人孔，底部采用罐底球阀放料，方便、快捷。

按《钢制压力容器》《钢制化工容器制造技术要求》进行制造，试压和验收。

本设备可根据不同厂家的技术要求及尺寸进行设计与制作。

The equipment is widely used in fine chemical industry, biological engineering and other industries. The parts of the equipment tank that contact materials are all made of SUS304. The support is made of Q235-B and is painted at its outside.

The equipment is mainly composed of tank body and support. The top is provided with the rapid open type manhole and the bottom adopts tank bottom ball valve for material discharging, which is convenient and fast. Manufacturing, pressure test and acceptance are in accordance with "steel pressure vessels" and "manufacturing technical requirements for steel chemical vessels".

The equipment can be designed and manufactured according to technical requirements and dimensions of different factories.

## 夹层锅 INTERMEDIATE LAYER PAN



### 夹层配料锅

本设备是带有搅拌结构的配料与浓缩装置，应用广泛，本设备与物料接触部分均采用不锈钢制造，经久耐用，并符合GMP标准要求。

### 系列夹层锅

可倾式夹层锅由锅体、支架、蜗轮、蜗杆等部件组成，锅体可作 180° 以内的转动，本设备为敞口式浓缩，主要用于制药、食品、化工、轻工等行业对料液的煎煮和浓缩，该设备与物料接触部分为不锈钢 SUS304，具有较好的耐腐蚀性能，经久耐用，符合 GMP 要求，同时亦可根椐用户要求，可增加搅拌装置。

### JACKETED DISPENSING BOILER

The equipment is a device for preparation and concentration with mixing structure. It has wide application range. The parts of the equipment contacting with materials are all made of stainless steel, which is durable and is in accordance with GMP standard requirements.

### SERIES TILTING JACKETED KETTLES

Tilting jacketed kettle is composed of kettle, bracket, worm wheel and worm etc. The kettle can revolve within 180°. The equipment is used for open concentration, mainly for decocting and concentration of liquids in industries of pharmaceutical industry, food industry, chemical industry and light industry etc. The parts of the equipment contacting with materials are made of stainless steel SUS 304. It has perfect corrosion-proof performance, and is highly durable according to GMP requirements. Blender also can be added according to customer requirements.

### 技术参数 TECHNICAL PARAMETERS

规格 Specification	型号 Model							
	QJ50	QJ100	QJ150	QJ200	QJ300	QJ400	QJ500	
设备容量 Equipment volume (L)	50	100	150	200	300	400	500	
夹套工作压力 Working pressure in jacket (MPa)	<0.2							
蒸发量 Evaporation quantity (Kg/h)	30	40	50	65	75	100	150	
加热面积 Heating area (m <sup>2</sup> )	0.4	0.45	0.76	1.0	1.15	1.44	1.90	
能耗 Energy consumption (Kg/h)	33	44	55	72	90	110	165	
设备重量 Equipment weight (Kg)	170	190	210	230	320	360	485	
	宽 Width	720	800	1350	1400	1450	1500	1600
外型尺寸 Outline dimension(mm)	高 Height	600	650	660	700	800	850	900
	长 Length	830	950	1000	1100	1110	1140	1150



## CIP 清洗系统 CIP CLEANING EQUIPMENT

### 应用领域

目前，智能型CIP就地清洗系统广泛应用于生物发酵、制药乳品、饮料等对清洗要求较高的行业，以达到卫生无菌的效果。

### 工作原理

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

### 系统组成

智能型CIP系统为一中央集成系统，包含注射水罐、CIP罐、板式换热器、管道过滤器、送液泵、回液泵、温度控制仪、液位控制仪、电导率检测仪、PLC触摸屏、控制柜及系统管阀件等组成。

### APPLICATION

At present, Intelligentized CIP system is widely used in biological fermenting and pharmaceutical industries with high requirement of cleanso that it teaches sanitary and sterilization effect.

### OPERATIONAL PRINCIPLE

Through set programme(adjustable programme),CIP system makes auomatically preparation clean liquid, via pneumatic control valve and transfer pump and loop liquid pump finishing transfer of clean liquid and whole clean process of circulation circle clean and drain and recovery. Through conduct inspection instrument and PLC constituting control system reaches auto online clean.

### SYSTEM INCLUDES

Now, the intelligent CIP cleaning system is widely used in biological fermentation, pharmacy, dairy, beverage and other industries with higher cleaning requirements, so as to achieve the effect of sanitation and asepsis.



可根据工艺具体选择：单罐式、双罐式、分体式，还可以选择智能型及手动型

According to process condition choose: Single tank type, double tanks type, separte body type Asol choice: intelligent and manual

**适用于制药行业CIP清洗系统  
CIP CLEANING SYSTEM SUITABLE  
FOR PHARMACEUTICAL INDUSTRY**

## CIP 清洗系统 CIP CLEANING EQUIPMENT

### 设备说明

CIP系统的全称为 Cleaning in place System，中文名称译为在线就地清洗系统，是指生产设备(罐体、管道、泵等)及整个生产线在无需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。适用于乳品、饮料、酒类、农副产品加工等行业的设备和管道的清洗。

CIP清洗系统由酸液罐、碱液罐、热水罐、纯水罐、回水罐、消毒水罐以及浓酸罐、浓碱罐和换热器、进程泵及相应阀门管件组成。可按工艺需求配置相应罐，在一般场合只需使用酸液罐、碱液罐、热水罐三罐制的CIP系统就可满足清洗要求。

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。主要有：

- ① 手动CIP站；
- ② 半自动CIP站；
- ③ 自动CIP站系统；
- ④ 自动配料前处理系统自动CIP，更为先进、自动化程度，可靠性、安全性更高，可以实现整条生产线信息数据的采集、交换并可以完成他们之间的联动。

以上CIP的结构方式有联体和分体两种方式；这两种结构的CIP的加热方式各有四种加热方式：板式加热、列管加热、盘管加热、直通加热；联体的CIP系统有从一回路到三回路、罐容积从1T到5T的各种规格。分体式的CIP系统有从一回路到六回路、罐容积从1T到10T的各种规格。

Full name of CIP system is cleaning in place System,Chinese name is cleaning in place system.It is a system, in which,producing equipments(tanks,pipes and valves etc)and whole production line is cleaned and disinfected circularly in a closed loop without being dismantled or opened.It is applicable for cleaning of equipments and pipes in industries of dairy, beverages, alcohol, agricultural and sideline products.

### 型号说明 DESCRIPTION OF SPECIFICATIONS

TLCIP- □ - □ - □ - □ - P

- P: 盘管加热, B: 板片加热, L: 列管加热
- P: coil pipe heating, B: plate heating, L: in-line heating
- S代表手动控制, B代表半自动控制, Z代表全自动控制
- S means manual control, B means semi-automatic control, Z means full-automatic control
- 1、2、3、4、分别代表1~4路输出 1, 2, 3, 4 mean 1~4-loop output
- 3、4、5代表罐的数目 3,4,5 means number of tanks
- T酸、碱、水罐容积 T: volume of acid tank, alkali tank and water tank
- 就地清洗系统 Cleaning in place System

例: TLCIP-10T-5-6-Z-B10T五罐六回路全自动CIP, 加热方式为板片加热。  
For example: TLCIP-10T-5-6-Z-B10T5-tank & 6-loop full-automatic CIP, heating mode is plate heating.



### 适用于食品行业CIP清洗系统 CIP CLEANING SYSTEM SUITABLE FOR FOOD INDUSTRY

CIP cleaning system is composed of acid tanks,alkali tanks,hot-water tanks,pure-water tanks,back-water tanks,disinfect-water tanks, thick-alkali tanks,thick-alkali tanks, heat exchanger,pumps,peripheral valves and pipes.These tanks can be allocated according to technical requirements.Generally,the CIP system only comprising acid tanks,alkali tanks and hot-water tanks is sufficient for requirements of cleaning.

CIP system produced by our company have the characteristics that,they are safe,energy-saving, highly efficient,and easy to operate and maintain. Mainly are:

- ① Manual CIP station
- ② Semi-automatic CIP station
- ③ Auto CIP station system
- ④ Before materials compounding,the processing system carries out automatic CIP,which is more advanced,automated,reliable and safe.Therefore,data sampling and exchanging on whole production line can be realized for linkages each couple of equipments.

The structures of CIP can be divided into joint type and split type . The CIP systems of the two types,for each type,there are four types of heating: plate heating, lined pipe heating,coil-pipe heating, and through heating. The joint type of CIP system has specifications from one-loop to three-loop and tank volume from 1T to 5T.The split type of CIP system has specifications from one-loop to six-loop and tank volume from 1T to 10T.

## 栓剂真空乳化成套设备 SUPPOSITORY VACUUM EMULSIFICATION COMPLETE EQUIPMENT



本机组由基质溶解罐、真空乳化搅拌罐、热水罐、转子泵、真空泵、热水卫生泵、液压系统、电器控制系统、工作平面等部分组成。

This machine consists of host dissolving pot, vacuum emulsifying agitating pot, hot water pot, rotary pump, vacuum pump, hot water sanitary pump, liquid pressure system, electric controlling system, and work platform.

### 用途

本机组适用于配制栓剂药品，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率。

### 技术参数 TECHNICAL PARAMETERS

型号规格Model and specification	100型	200型	350型	蒸气、电加热二种 Steam heating& electricity heating
工作容积Work volume(L)	100	200	350	
溶解罐Dissolving pot(KW)	0.55	0.75	1.5	减速机 Speed reducer
刮板搅拌器Scrapping agitator(KW)	(10-100r/min)1.5	1.5	1.5	变频调速 Adjusting speed
均质搅拌器Homogenizing agitator(KW)	(0-3500r/min) 3	3	4	变频调速 Adjusting speed
热水罐Hot water pot(L)	100	200	300	电加热 Electricity heating
真空泵 Vacuum pump(KW)	1.45	1.45	1.45	水环式 Water recycle
转子泵 Rotary pump(KW)	1.5	1.5	2.2	无级调速 Non-class adjusting speed
热水泵Hot water pump(KW)	1.5	1.5	1.5	离心式 Centrifugal
液压系统Liquid power system(KW)	1.5	1.5	1.5	电磁控制 Electro-magnetic control
外型尺寸Demension(mm)	2000X850X2150	2000X850X2250	2250X1000X2400	锅盖未开 Cover close
(长X宽X高) (L*W*H)	2000X850X3050	2000X850X3150	2250X1000X3300	锅盖升起 Cover rise

## 膏霜真空乳化成套设备 CREAM VACUUM EMULSIFICATION COMPLETE EQUIPMENT



TLZRJ真空乳化机是引进德国先进技术，根据化妆品、药膏类产品的制膏工艺而专门设计的，本机组由预处理锅、真空乳化搅拌锅、真空泵、液压系统、倒料系统、电器控制系统、工作平面等部分组成。

The TLZRJ vacuum emulsion machine introduces German advanced technology, specially designed according to the cream-making technology of cosmetics and medicinal ointment. This machine is composed of pretreated pot, vacuum emulsification stirrer, vacuum pump, hydraulic system, discharge system, and electric appliance control system and work plane.

### 用途

本机组适用于化妆品厂、药厂的膏、霜类产品的生产，尤其对基质粘度大，固料含量比较高的物料配制乳化更显著功效。

### 技术参数 TECHNICAL PARAMETERS

型号规格Model and specification	100型	200型	350型	蒸气、电加热二种 Steam heating& electricity heating
工作容积Work volume(L)	100	200	350	
预处理锅Pre-treating pot(KW)	0.55 × 2	0.75 × 2	1.1 × 2	减速机 Speed reducer
刮板搅拌器Scrapping agitator(KW)	(10-100r/min)1.5	1.5	1.5	变频调速 Adjusting speed
均质搅拌器Homogenizing agitator(KW)	(0-3500r/min) 3	4	5.5	变频调速 Adjusting speed
油相锅Oil pot(L)	100	200	300	蒸汽、电加热 Steam Electricity heating
水相锅Water pot(L)	80	160	250	蒸汽、电加热 Steam Electricity heating
真空泵 Vacuum pump(KW)	1.45	1.45	2.35	水环式 Water recycle
液压系统Liquid power system(KW)	1.5	1.5	1.5	电磁控制 Electro-magnetic control
外型尺寸Demension(mm)	2000X850X2150	2000X850X2250	2250X1000X2400	锅盖未开 Cover close
(长X宽X高) (L*W*H)	2000X850X3050	2000X850X3150	2250X1000X3300	锅盖升起 Cover rise

### 优点

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：0-3500r/min(变频调速)、慢速刮壁搅拌器转速：10-100r/min(变频调速)、均质头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。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、触摸屏采用西门子产品、乳化电机采用ABB产品、减速电机采用爱德利产品、变频器采用日本松下电工、真空泵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。

### ADVANTAGES

This machine adopts upper coaxial tertiary mixer, hydraulic pressure lift cover opening, rotate speed of rapid homogenate stirring: 0-3500r/Min (Frequency control), rotate speed of slow scrapping mixer: 10-100r/Min (Frequency control), the homogenate head adopts high shear turbulent emulsification mixer, slow scrapping stirring automatic cling to the bottom of the pot and the wall. It adopts vacuum suction, vacuum suction to powder material avoids dust flying specially. The entire working procedure carries on under vacuum condition, prevents the material producing bubble after high speed stirring to reach sanitary and aseptic. This system equips with CIP cleaning system, the contact department of vessel and material are SUS316L material, the internal surface mirror surface polish 300EMSH (hygienic level) in order to guarantee the control section to be stable.

The electric appliance control section uses Germany Siemens product; the button uses Japanese Fuji Corporation product; touch screen uses Siemens product; the electrical machinery of emulsify uses ABB product; electrical machinery of reducer uses Aideli product; the transducer uses Japanese Panasonic electrician; vacuum pump uses Siemens product. This unit are manufactured conforms to GMP requirement completely, is the most advanced and reasonable paste and cream production equipments.

### USAGE

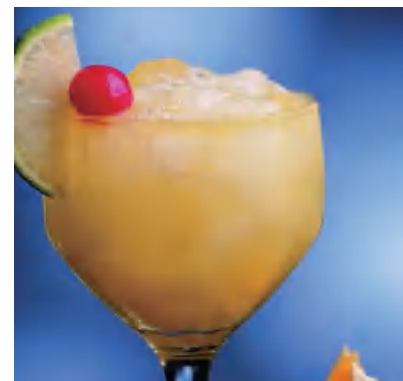
This machine is applied to produce cream and frost products for cosmetics and medicine factories, the emulsification function is specially obvious especially to the material with high adhesive and high content of solid material.

## 顶部高剪切乳化罐 HIGH-SPEED MIXING (SHEARING) TANK

高剪切乳化罐是目前国内乳品、饮料、食品等行业最先进的混合设备。公司生产的高剪切混合乳化机引进了国外先进技术，具有独特的搅拌结构，与众不同的混合乳化功能。

原理和特性：本机搅拌器由紧密配合的转子和定子两部份组成，转子高速旋转，定子则固定不动。高速乳化头工作时将转子中心的物料高速抛向定子，通过定子的齿间隙，在转子和定子之间通过剪切、碰撞、粉碎而达到乳化的目的。是集混合、乳化、均质、溶解、粉碎等功能于一体的设备。

本机使用方便，操作灵活，有单层、双层保温，夹层等三种结构。



The high shear emulsifying tank is the most advanced blending equipment in such industries as dairy, beverage, food, etc.

The high shear emulsifying tank produced by our company is provided with unique blending structure and outstanding mixing and emulsifying functions after we have introduced advanced technology from abroad.

Principle and features: The blender of the machine is composed of the closely associated rotor and stator. The rotor rotates at a high speed and the stator is fixed without movement. When the high-speed emulsifying head works, it throws the materials at the center of the rotor to the stator at a high speed, then through tooth clearance of the stator, and shearing, collision and crushing between rotor and stator, the emulsification is realized. Therefore, it is a piece of equipment integrating such functions as blending, emulsifying, homogenizing, solving, crushing and etc.

The machine is easy to use and flexible to operate. It has three kinds of structures such as single-layer heat preservation, double-layer heat reservation and jacket.

应用领域：适用于乳剂、胶浆、油漆、颜料、染料、造纸、农药制品等化工、轻工行业对液-液、液-固物料包括任何需要搅拌、分散、乳化、均质、粉碎、悬浮和溶解的过程均可迅速完成。

### 技术参数 TECHNICAL PARAMETERS

型号 Model	有效容积(V) Diameter (L)	内径(D) Inner diameter (mm)	总高(H) Height (mm)	乳化电机功率 Shearer Motor power (KW)	乳化头转速 Mixer speed (r/m)
RHG-600	600	800	2140	7.5	2900/1450
RHG-1000	1000	1050	2380	11	2900/1450
RHG-1500	1500	1180	2450	15	2900/1450
RHG-2000	2000	1340	2760	18.5	2900/1450
RHG-3000	3000	1540	2870	22	2900/1450

注：可根据客户要求制作(另一种形式为顶部低速搅拌，底部带高速乳头)

Note: Production can be made according to customer requirements (another form is low speed blending at the top and high speed emulsifying head at the bottom)

## 底部高剪切乳化罐 HIGH-SPEED EMULSIFICATION TANK

本设备采用底部叶轮高速转动，转速为1440转/分钟，使物料在搅拌、挤压和剪切等物理作用力下快速混合，是同类产品中效果最好的产品。本设备适用于糖类、奶粉类、淀粉乳化稳定剂类以及胶体类等物料。

High-speed emulsification tank, rotated by the high speed mixer at bottom, speed of mixer is 1440rpm; This equipment is the best one among the similar types in which materials can be mixed well by stirring, extrusion and shearing. This equipment is widely used for mixing sugar, milk powder, starch, stability reagent in emulsion and colloids.



### 技术参数 TECHNICAL PARAMETERS

型号 Model	容积 volume	外形尺寸(mm) External dimension	最高工作压力 Maximum working pressure	最高工作温度 Maximum working temperature	搅拌转速 Agitator speed (r/min)	电机功率 Motor power (kw)	材质 material	物料进出口 Inlet/outlet for product
RHBF-400	400L	950 × 900 × 1500	常压 Normal pressure	100°C	1440	7.5kw	SUS304	φ 51
RHBF-500	500L	1100 × 1000 × 1500		100°C	1440	7.5kw	SUS304	
RHBF-600	600L	1200 × 1100 × 1600		100°C	1440	11kw	SUS304	
RHBF-700	700L	1300 × 1200 × 1600		100°C	1440	11kw	SUS304	
RHBF-800	800L	1400 × 1300 × 1700		100°C	1440	11kw	SUS304	
RHBF-1000	1000L	1500 × 1400 × 1800		100°C	1440	15kw	SUS304	
RHBF-1500	1500L	1600 × 1400 × 1900		100°C	1440	18.5kw	SUS304	

## UHT管式灭菌机系列 UHT PIPE STERILIZER SERIES



### 适用范围

管式杀菌机可用来对各种乳品、果汁、饮料、糖浆、酱油、酒类、醋类、药液进行热处理，与其它种类的杀菌机相比有如下优点：

- 1、热效率高，物料加热后，90%的热能可以回收。
- 2、加热介质与物料温差小，可实现温和加热，换热管采用了波纹管，物料和换热介质都在湍流状态工作，换热效率高，结垢少，增长了杀菌机的连续工作时间。
- 3、自动化程度高，从设备的CIP清洗、设备管道杀菌到物料杀菌整个过程可实现自动控制、记录。
- 4、杀菌温度控制精确可靠：影响杀菌温度的系统如蒸汽压力、流量，物料流量等都严格自动控制。
- 5、物料管内壁采用先进技术抛光，管道焊接采用自动焊，管道设计实现完全自动清洗，设备全过程自杀菌，确保系统无菌性。
- 6、系统安全性强，系统配件皆选用性能好可靠性高的产品，系统设计高度重视人身，设备安全，蒸汽，热水，物料等都有压力保护措施和报警系统。

7、系统可靠性高，主要部件如物料泵、热水泵、各类阀门，控制系统的电气元件和执行元器件都是世界名牌。

管式巴氏杀菌机和酸奶专用杀菌机可根据用户要求进行设计。

我公司的管式UHT灭菌机组是专为无菌包装设备配套设计，它适用于各种类型的无菌包装，如：无菌纸包装，无菌塑料薄膜包装，无菌PET瓶包装等，特别适用于液态奶及饮料的生产。

### APPLICATION FIELD

UHT管式灭菌机可用于各种液体食品及饮料的热处理。

- Compared to the sterilizer of other model, it has the following characteristics:
- 1、High heat effect, 90% of the heat can be recycled after heating the material.
  - 2、Temperature gap between the medium and the material is small, so to realize gentle heating; the heating pipe adopts wave pipe, the material and the medium are both in flow condition, with high heat exchange, little scaling, so to improve the sterilizer continuous working time.
  - 3、It is of high automatic degree, can automatically control and record from CIP cleaning to pipe sterilizing to sterilizing the material.
  - 4、It is of precise and reliable sterilizing temperature control: automatically control the affecting sterilizing temperature system such as steam pressure, flow, and material flow.
  - 5、The inside of the material pipe adopts advanced polish technology, pipe joints automatically, pipe design realize complete automatic clean, and the whole process sterilizes, so to ensure the system asepsis.
  - 6、It is of strong system safety, the fillings all adopt reliable product with good capacity, the design values the human, safe equipment, and the steam, hot water and the material all adopt pressure protection methods and alarm system.
  - 7、It is of high reliability system. The main fillings such as material pump, hot water pump, valves, electric elements of controlling system, and the executive elements are all world famous.
- Pipe pasteurizer and yoghurt special sterilizer can be designed to order.  
The pipe UHT sterilizer of our company is to filling the asepsis package only.  
It fits to various asepsis package, such as: asepsis paper package, asepsis plastic thin film package, asepsis PET bottle package, especially fit to the production of liquid milk.

## 全水静置式双罐杀菌锅 FULL WATER STATIC DOUBLE TANK TYPE RETORT STERILIZER



### 设备特点

1. 杀菌温度高  
本机是采用国内最先进技术，利用热水循环、浸泡式杀菌，在杀菌过程中，对温度、压力、杀菌时间、进水、进气、排水和排气等全过程进行智能化、自动化控制，设定温度控制在  $\pm 0.5^{\circ}\text{C}$  范围内。
2. 节约能源  
本机杀菌过程中使用的工作介质水可循环使用，节省了能源、时间、人力和物力，降低了生产成本。
3. 全自动控制系统  
整个杀菌过程可全部由电脑自动控制，完成操作；也可转化成人工分步操作。  
A. 利用触摸屏和PLC进行触摸控制。  
B. 所有时段均由模拟传感器和自动阀控制。  
C. 可以按工艺要求进行多阶段杀菌。  
D. 压力和温度呈数字化显示。  
E. 所有的过程都被记录在磁带上。  
F. 多种杀菌工艺预存，可供选择，最多可存储250个杀菌公式。  
本机整个灭菌工艺流程全部由电脑控制，一次性完成，无需人工操作。
4. 杀菌釜采用模拟温度控制系统，可设定多阶段加热机制  
根据不同食品对灭菌条件的要求，随时设定不同的升温 and 冷却程序，可利用多阶段加热的杀菌方式和二次冷却方式。
5. 测量F值的功能\*  
每台水浴式杀菌锅上都可配置。所有灭菌数据，包括灭菌条件、F值、时间温度曲线、时间压力曲线等均可通过数据处理软件处理后予以保存或打印，以便于生产管理。

### CHARACTERISTICS OF THE EQUIPMENT

1. High sterilizing temperature  
Adopts the latest technology, this equipment utilizes hot water recycling to sterilize. During the sterilization processing, all the data about temperature, pressure, sterilization time, water and air are automatically controlled. The temperature is controlled with a error less than  $0.5^{\circ}\text{C}$ .
2. Energy saving  
The medium water used during the sterilization can be used repeatedly, thus saving the energy, time, manpower and materials, reducing the whole production cost.
3. Fully automated system  
A. controlling through the touching screen and PLC  
B. Controlled by the digital reactor and auto valve during all the periods  
C. Can fulfill the multi period sterilization according to the technical requirement.  
D. Pressure and temperature digitally displayed  
E. All the processing being recorded to the disks.  
F. There are various sterilization modes pre stored for choices, to a maximum of 250 sterilization formulas.  
The whole sterilization processing are fully automated, no need of manual operation.
4. The Retort adopts the analog temperature controlled system, you can set multi period heating mode.  
According to different requirements of different food products, you can set different heating and cooling procedures, as well as use the multi period heating sterilization mode and twice cooling mode.
5. F value measuring function  
Each set of water bath Retort could be equipped with the F value measuring function. Being treated by the data processing software, all the sterilization data, including sterilization condition, F value, time-temperature chart and time-pressure chart will be saved or printed, which offers convenience to production management.

## ZT 真空脱气机 ZT VACUUM DEGASSER



### 适用范围及工作原理

脱气机又叫脱气罐，通常用来对果汁进行真空脱气，以抑制果汁的氧化和褐变。经过脱气可以同时去除悬浮微粒上附着的气体，防止微粒上浮，改善产品外观；减少高温灭菌和灌装时起泡，改善杀菌效果，减少容器内部的腐蚀。生产液体奶或含乳饮料也经常进行脱气。一般真空脱气是在均质后进行，有时也在灌装前脱气。

### 主要材质

本设备所有与物料接触的部件，都是采用优质不锈钢制造，密封圈采用优质食品用硅橡胶制成。

### 技术参数 TECHNICAL PARAMETERS

型号Model	ZT-1	ZT-2	ZT-3	ZT-10	ZT-15
处理能力 Processing capacity	1000L/H	2000L/H	3000L/H	10000L/H	15000L/H
工作真空度 Work vacuum	0.064-0.087MPa				
电机总功率 Total Power	5.2kw	6.2kw	6.2kw	8kw	8kw
外形尺寸(mm)Size	1035X750X2840	1135X780X3040	1185X800X3140	1600X1700X3250	1750X1500X3500
重量Weight	270kg	350kg	450kg	600kg	800kg

注：除表系列规格外，亦可根据客户要求另行设计。

Notice: We can make according to order besides the model listed in the form.

### APPLICABLE FIELD AND WORK PRINCIPLE

Degasser is also called degassing pot, mainly used in degassing the fruit juice in vacuum to stop the oxidization and turning brown, at the same time, removing the gas attaching to the suspended particulates, stopping the particles upping, improving the looking, reducing bubbles in high temperature sterilizing and filling, and reducing the corrosion. Degasser can also be used in producing liquid milk, and beverage contenting milk. Normally, vacuum degassing is after homogenizing, and sometimes, is before filling.

### MAIN MATERIAL

The surface of this machine in touch with material adopts high quality of stainless steel, and sealing packing collar is made in eatable silica gel.

## 板式换热器 PLATE TYPE EXCHANGER



### 板式蒸发器工作原理

Vap是为蒸发而定制的，它有两个小的进料口和一个用于蒸汽和浓缩液的大出口。有一个大的入口用于加热蒸汽，一个小的出口用于蒸汽冷凝水出口。

Vap使用板片组的概念，每个板片组由成对焊在一起的板片组成或者可拆卸片组成。加热蒸汽在焊接通道内冷凝，而物料液则在垫片密封的通道内蒸发浓缩。

### 板式蒸发器的优点

#### 1. 热传导效率高

特殊的波纹状板型产生高强度的湍流，比起传统的管壳式蒸发器，它的传热系数得到了极大的提高。Vap在高浓度和高粘度时特别有效，并且可以在温差仅3-5℃时工作，当Vap用在TVR和MVR系统时，这是一个很大的优势。

#### 2. 结垢更少，运行周期长

波纹板片的设计是在很低流速下就可以达到高度湍流，结垢比列管换热器更不容易发生，运行周期变长，客户降低了生产运营成本，提高了生产效率。

#### 3. 电耗低

在相同的加热面积下，板式比列管式具有更大的流通截面积，且摩擦阻力小。在相同的流速时，板式蒸发系统可采用流量小和扬程低的泵，动力消耗小。

#### 4. 提高产品质量

非常低的滞留量意味着任何给定的时间，几乎没有产品留在Vap蒸发器内。产品在蒸发内停留的时间短，对于热敏产品而言是一个很大的优势。它还允许快速启动和关机，只有很少一点浪费。

### 板式冷凝器工作原理

Cond是为真空冷凝而特制的。一个大的蒸汽的进口，和一个非常小的冷凝液出口。

Cond由成对焊在一起的板片组成，形成所谓的焊接对板片组，或者直接由可拆卸板片组成。此种板型是为获得最佳冷凝效果而特别设计的，它具有两侧窄通道之分，在蒸汽侧有较大的间隙，在冷却水侧有较小的间隙。这样就可能在蒸汽端保持一个非常低的压降，而冷却水侧仍保持一定的速度和湍流。因此使得热传导效率达到最大，并将结垢程度减到最小。

### 板式冷凝器的优点

#### 1. 减少用户投入成本

由于热传导效率高，因此与传统的管壳式相比，这意味着较少的换热面积。因Cond具有更高的成本效率，特别是需要用不锈钢或钛时。紧凑的设计也节省了空间，因而减少了运输和安装成本。

#### 2. 结垢更少

由于特别设计的波纹板片产生的高强度湍流，因而相比于管壳式冷凝器，在冷却水侧的结垢更少。

#### 3. 便于清洗

无论用机械还是化学的方法，冷却水侧都很容易清洗。

#### 4. 扩容方便

在现有的框架中只要增加额外的板片即可。

#### 5. 纯逆流换热

与可比的管壳式设备相比，可以对非冷凝气体进行更大程度的过冷。因此减少了真空泵的负荷。

## RO 系列反渗透系统 RO SERIES ANTI-OSMOSIS SYSTEM

### 概述

本机预处理采用不锈钢多介质过滤，活性炭过滤，有效去除大颗粒杂质和悬浮物，提高RO膜进水指数，并有效的去除了原水的异味、余氯。提高了水质的口感，主机采用美国高效低压复合膜，单支膜脱盐率99%。采用韩国进口的高低压保护，降低了设备的故障率低于0，出水标准完全达到国家纯净水标准。反渗透装置(配置：源水泵、机械过滤器、活性炭吸附器、加药装置、5μ精密过滤器、反渗透装置、RO清洗装置、工程管件等)

### SUMMARY

This machine adopts stainless steel multi-medium filter, active carbon filter effectively to remove big impure particles and suspending matters, improve RO film water inputting index, effectively remove the smell and rest chlorine of the original water, and improve the taste of water quality. The main machine adopts American high effective low-pressure compound film, with single film salt removing degree up to 99%. The high low-pressure protection imported from Korea ensures the breakdown low to 0%, with the outputting water up to national pure water standard. Anti-filtration equipment ( fittings: resource water pump, filter machine, active carbon absorbing machine, medicine adding machine, precise filter, anti-filtration machine, RO cleaning machine, and project pipes).

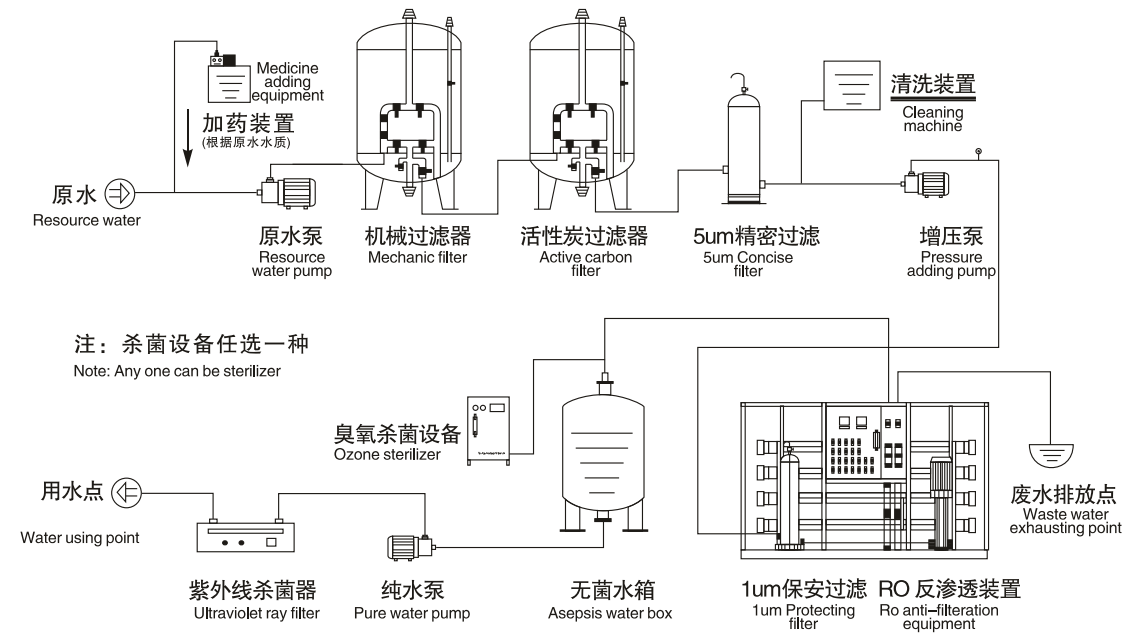


一级反渗透装置  
One-stage anti-osmosis device



二级反渗透装置  
two-stage anti-osmosis device

## RO 系列反渗透系统 RO SERIES ANTI-OSMOSIS SYSTEM



食品、药化、生物工厂工业用水工艺流程图  
Craft flow chart of industry-use water in food, chemical, and biochemical factories.

### 技术参数 TECHNICAL PARAMETERS

参数 Parameter	型号 Type	RO-1	RO-3	RO-5	RO-10
处理能力process capacity( t/h)		1	3	5	10
源水泵型号resource water pump model		CHL2-40	CHL8-40	CHL8-50	CHL16-40
机械过滤器mechanic filter		400 × 1500	600 × 1500	800 × 1500	1200 × 1500
活性炭吸附器active carbon adsorber		400 × 1500	600 × 1500	800 × 1500	1200 × 1500
加药装置medicine adding equipment	计量泵measuring pump	美国米顿罗P026 American P026			
	加药箱medicine adding box	40L PE桶 40L PE Bucket			
精密过滤器concise filter	滤芯规格filter core specification	65 × 500	65 × 750	65 × 750	65 × 750
	滤芯数量filter core munber	5	5	7	7
反渗透装置(包括高压泵、RO膜、膜壳、控制箱、压力表、流量计电导仪、高低压开关等) Anfi-filtration equipment(including high pressure pump, RO film, film shell, controlling box, pressure applicance, flow applicace, high-low pressure switch etc.)					
RO清洗装置(包括清洗泵清洗箱等) Ro cleaning equipment(including cleaning pump and cleaning box etc.)					
外形尺寸overall size	L	2600	2600	2600	3600
反渗透部分anit-filtration part	W	700	700	900	900
	H	1900	2000	2000	2000

## 双联过滤器/不锈钢板框过滤机 SIMPLEX DUAL FILTER/ STAINLESS STEEL FRAME FILTER



### SL系列单/双联过滤器

本设备用于中药、西药、果汁、糖汁、牛奶、饮料等液体中的各种固体或胶体杂质过滤，两个过滤器交替使用，可不停机清洗滤网连续使用。

### SL SERIES SIMPLEX/DUAL FILTER

This equipment is used to filter various solids or colloids in the liquids such as traditional Chinese medicine, Western medicine, fruit juice, sirup, milk and beverages etc. two filters can be changed over. The filter screen can be cleaned without stopping.

### DL 不锈钢板框过滤机 系列

本机为不锈钢多层板框式过滤机，适用于浓度 50% 以下粘度较低，含渣量较少的液体作密闭过滤以达到提纯、澄清等精滤、半精滤的要求。可以直接选用微孔滤膜，能够不经微孔过滤器过滤而达到无菌过滤之目的。本机过滤面积大，流量大，适用范围大，所以在制药、化工、食品等行业有广泛用途，应用在制药厂针剂药液之过滤，效果甚佳。

### DL SERIES STAINLESS STEEL FRAME FILTER

The machine is stainless steel multilayer frame filter. It is fit for enclosed filter in liquids with concentration 50%, low viscosity and little slag so as to meet precision filter and half-precision filter requirements like refining, sterilization and clarification. By directly using micro porous-membrane, material can achieve aseptic filtration without passing micro porous-membrane filter. The filter has big filter area, big flow, and wide application scope. So it is widely used in pharmacy, chemical engineering and food industries. While used for filtering injection liquids in pharmaceutical factories, it has particularly good effects.

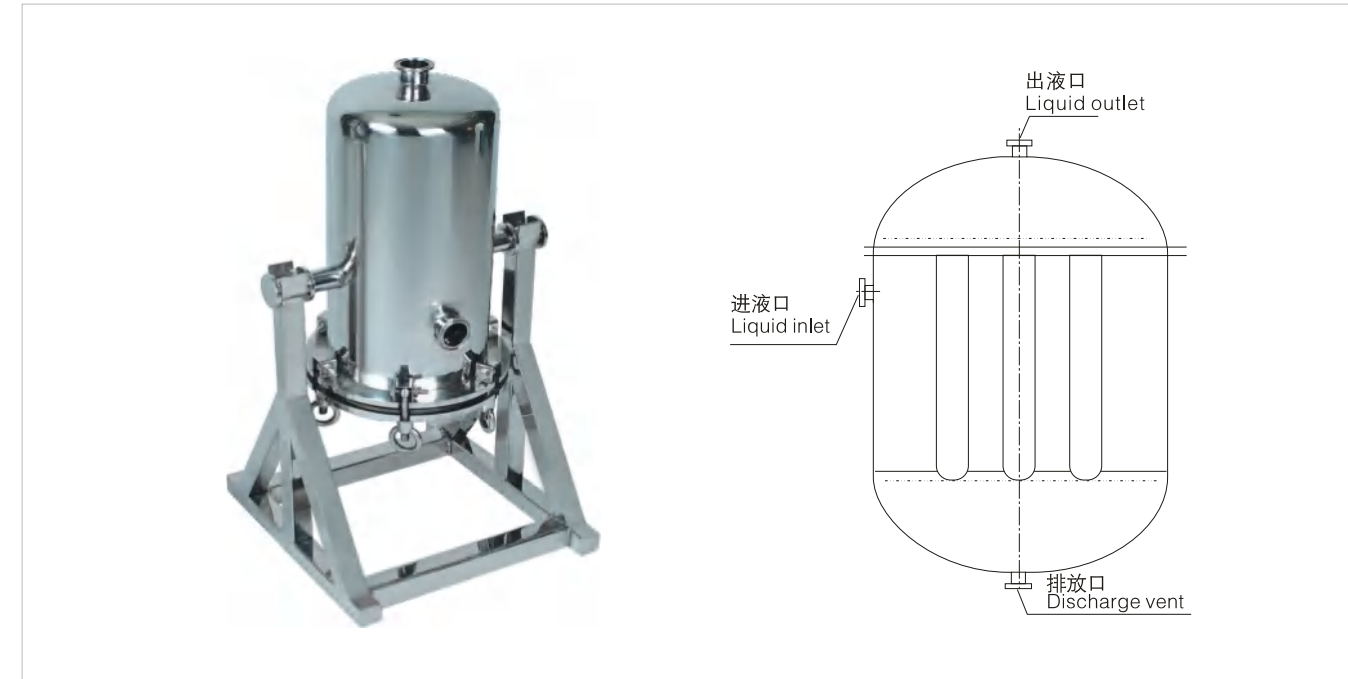
### 技术参数 TECHNICAL PARAMETERS

规格	0.15m <sup>2</sup>	0.25m <sup>2</sup>	0.35m <sup>2</sup>
流量	2T/h	5T/h	10T/h
外型	1050x420x1087	1300x500x1100	1520x550x1200
滤网规格80-160目根据用户要求定配			

### 技术参数 TECHNICAL PARAMETERS

型号规格	DL-150	DL-200	DL-300	DL-400
滤板直径 (mm)	150	200	300	400
层数	10	10	10	10
流量 (T/h)	1.5	3	5	8
功率 (KW)	0.75	1.1	1.5	2.2
设备重量 (Kg)	156	175	226	257
外形尺寸 (mm)	长 L	600	650	700
	宽 W	500	500	600
	高 H	800	900	1050

## TL钛棒过滤器 TL TITANIC STICK FILTER



### 设备特点

钛棒过滤器主要用于过滤压力小于0.3MPa的加压过滤。过滤精度为5μm以下，耐腐蚀、寿命长、耐高温、耐磨损、强度高、无微粒脱落、不吸附主药成份等优点，可用于液体、气体的粗滤和预滤等。钛棒由钛合金粉末烧结制成，其过滤的产品具有固液分离、除微粒、去热源、澄清度高、机械物理性能好等特点。主要用于药液脱炭，可替代大输液生产中传统的砂棒过滤器。客户长期使用后，一致反映效果良好，各项技术指标符合药典规定和GMP要求。

### EQUIPMENT CHARACTERISTICS

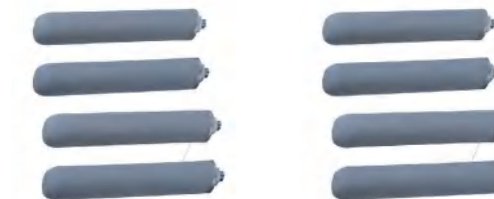
Titanium powder sintered filter core is adopted, usually used for prefiltration or inter-filtration. This filter core has high precision, high mechanical intensity and is high temperature resistant and anti-corrosion, which is widely applied to medicine liquids decarbonization and gas filter. It can also replace sand core filter that is commonly used on large liquid infusion production lines. The shell of TL titanium rod filter of our company is made of SUS304 or SUS316L stainless steel. After used by customers for years, it has been proved to have good effects and technical indexes apply with GMP medical standard. The titanic stick is made of sintered titanium alloy powder. The products filtered by it have such characteristics as solid and liquid separation, particle removing, heat source removing, high clarity and good mechanical and physical performance. It is mainly used for decarbonization of medicine liquids, and it can also replace sand stick filter that is commonly used in large transfusion production. After used by customers for years, it has been proved to have good effects and all its technical indices comply with pharmacopoeia stipulations and GMP requirements.

### 主要技术参数

1. 过滤精度: 4 μm-50 μm
2. 过滤效率: 95%-99.99%
3. 工作压力: ≤0.3MPa
4. 工作温度: ≤230℃
5. 钛棒规格: Φ60 × 300mm

### MAIN TECHNICAL PARAMETERS

- Filtration precision: 4 μm-50 μm  
Filtration efficiency: 95%-99.99%  
Working pressure: ≤0.3MPa  
Working temperature: ≤230℃  
Specification of Titanic stick: Φ60 × 300mm



### 钛棒与流量对照表 CONTRAST FORM OF TITANIC STICK AND FLOW

型号 Model	TL-1	TL-3	TL-5	TL-7	TL-9	TL-11	TL-19
规格 芯 Specification Core	1	3	5	7	9	11	19
流量 Flow T/h	0.3	0.9	1.5	2	2.5	3	5
外形尺寸 Dimension L × W × H (mm)	610 × 185	385 × 350 × 865	395 × 410 × 880	530 × 430 × 890	500 × 465 × 880	500 × 465 × 890	600 × 600 × 930

## 机械(活性炭、多介质、锰砂)过滤器 MICROPOROUS MEMBRANE FILTERS



原水箱、机械过滤器、活性炭吸附器、软化器  
Water tank, mechanical filter, active carbon absorber, softener

砂滤、炭滤、软化  
Sand filtering, carbon filtering, soften

砂滤、炭滤、软化  
Sand filtering, carbon filtering, soften

机械过滤是利用一种或几种过滤介质，在一定的压力下，使原液通过该介质，去除杂质，得到过滤液，从而达到过滤的目的。其内装的填料一般为石英砂、无烟煤、颗粒多孔陶瓷、锰砂等；材质有钢制衬钢或不锈钢，根据过滤介质的不同分为多介质过滤器、活性炭过滤器、锰砂过滤器。用户根据实际情况可联合使用，也可以单独使用。

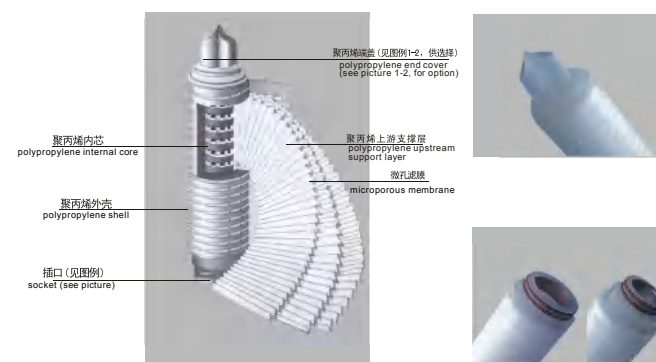
Mechanical filtration is to use one kind or several kinds of filtering media to obtain filtrate and reach the purpose of filtration after the stock solution passes through the medium to remove impurities under certain pressure. Generally, the filler inside can be quartz sand, anthracite, porous ceramics, manganese sand and etc. It is made of steel lining or stainless steel. According to different filter media, the filters can be classified into multi-medium filter, active carbon filter and manganese sand filter. The filters can be singly used or used in combination with others according to users' actual conditions.

### 微孔膜筒式过滤器

引进先进技术，按FDA标准制造，滤器外壳材质为优质不锈钢SUS304、SUS316L。其特点是体积小、重量轻、使用方便、过滤面积大、堵塞率低、过滤速度快、无污染、热稳定性及化学稳定性好。此滤器能滤除绝大部分微粒，所以广泛应用于精滤和除菌工艺。滤筒有1芯、3芯、5芯、7芯、9芯、11芯、13芯、15芯折叠式滤芯长度有10英寸、20英寸、30英寸、40英寸滤芯材质有聚四氟乙烯、聚砜、尼龙、聚丙烯、醋酸纤维。过滤孔径有：0.1 μm、0.22 μm、0.45 μm、1 μm、3 μm、5 μm、10 μm，分疏水性(适用于气体)和亲水性(适用于液体)滤芯，可根据需要选用。

### MICROPOROUS MEMBRANE BARREL FILTER

the filter is made to FDA standard by bringing in technique. The raw material is high-quality stainless steel(304、316L). It is small, light, non-contaminating and convenient to use. Besides, it has big filter area, low blocking rate, fast filter speed, good thermal stability and chemical stability. This filter can remove most granules so it is widely applied in fine filter and sterilization. Lauter tank specifications include 1-core, 3-core, 5-core, 7-core, 9-core, 11-core, 13-core, 15-core. Folded filter core length has 10 inches, 20 inches, 30 inches, 40 inches. Filter bore diameters: 0.1 μm, 0.22 μm, 0.45 μm, 1 μm, 3 μm, 5 μm, 10 μm. Choosing hydrophobic filter core (fit for gas) or hydrophilic filter core (fit for liquid) according to different requirements.



### 技术参数 TECHNICAL PARAMETERS

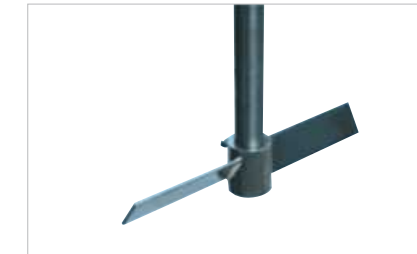
过滤精度Filtering precision(μm)	0.1-60
流量Flow(T/h)	0.5-30
滤芯规格(英寸)filter core specification (inch)	10、20、30、40
使用压力Using pressure(MPa)	0.1-0.6
使用温度Using temperature(°C)	85-143



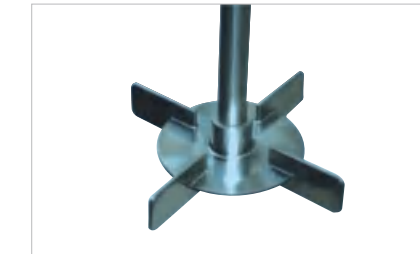
## 罐体附件 ACCESSORIES OF SHELL

当产品需要搅拌，让产品更快更均匀的运动，公司根据您的实际工艺要求进行设计，正确的选择叶轮形式可以产生最优化的搅拌效果。

When products need agitation, according to your actual process requirements company makes design and correctly choose blade type which can result in agitation results of optimization, so that it lets products quicker and equal movement.



斜叶桨式  
Oblique impeller blade type stirrer



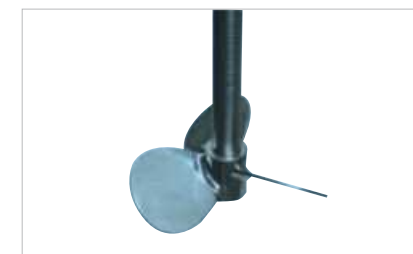
平叶圆盘涡轮式  
Flat blade disc turbine type stirrer

有轴向分流、径向分流和环向分流，桨叶前端有较强涡流，多在层流、过度流状态下操作，根据罐体形状及大小，可配备多层桨叶，可用于高粘度液体的低速搅拌。

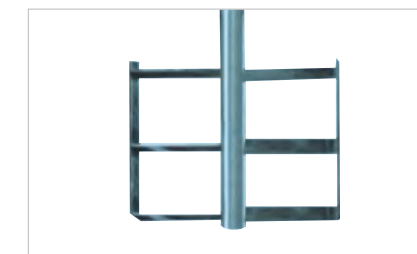
There are axes, radial, circulation flows, Upper end of blade has strength turbine flow, it operates under the condition of laminar flow and transfer flow. According to shape and size of tanks, it can match several blades which is used in high-viscosity liquid with low-speed agitation.

平叶圆盘涡轮的每个叶片后缘将形成高速剪切区域，使对液体和固体得以分散，特别适合于液体快速混合，制备稳定的液-液分散，固体含量小于60%的悬浮液或不互溶液体与气体的分散。可促进传热、传质和化学反应。

Each blade edges of flat blade disc turbine type stirrer will form high speed cut area which makes separate liquid and solid to be suitable for liquid quick mixture, separation of liquid-liquid, separation of suspend of less than 60% solid quantity or immiscible liquid and gas. It can promote transfer-heat, and media and chemical reaction.



三叶推进式  
Three-blade propelling type stirrer



锚式或框式  
Frame or anchor type stirrer

轴流型，循环速率高，剪切力小，采用挡板或导流筒则轴向循环更强，特别适合于低粘度外极型互溶液体的混合、传热及固体悬浮。因卫生级设备内必须减少死角及易清洗，不宜加挡板和导向筒，公司为您设计偏心安装以解决搅拌器所产生的轴向流动，造成强烈湍动，避免打旋而达到理想效果。

It belongs to axes flow with high speed circulation and little cut force. It uses baffles or draft tube to make axes more strength circulation, applies on mixture, transfer-heat And solid suspend Low-viscosity soluble liquids. Sanitary grade equipments must reduce dead Corners and be easy to clean, so it does not suit for adding baffles and draft tube. designs off-centre installation that solve axes flow and intense turbine and rotation agitation causes.

在桨叶不同高度上均为水平环向流，采用斜叶或角钢形叶时，可增加桨叶附近的涡流，锚式、框式均在层流状态下操作，为了增大搅拌范围，可根据需要在桨叶上增设立叶和横梁。适用于高粘度液体或含固量高的液体混合。

There is all horizontal circle flow in different height of blade. it uses oblique or angle steel type blades that increases turbine around blades. Anchor type and frame type operates in laminar flow for increasing scope of agitation, according to requirements, adds vertical blades and beam which suits for mixture of high-viscosity liquid or liquid including high solid.

**注意！**  
搅拌器一定要水平安装，并且与罐体保持垂直角度。

**Remark!**  
Agitation must be horizontally insalled, and keep vertical angle with body of tank.



罐体附件  
ACCESSORIES  
OF SHELL



隔膜式压力表  
Diaphragm pressure meter



卫生级卡盘温度计  
Lathe-dog thermometer



进口视镜  
Imported sight glass



数显仪器  
Digital display instrument



压力变送器  
Pressure transmitter



机械密封  
Mechanical sealing



数显液位计  
Digital display liquidometer



温度变送器  
Temperature transmitter



呼吸器 无菌空气呼吸器  
Breather Air respirator



PH计  
PH meter



立式减速机  
Vertical reducer



360° 自动旋转清洗器  
360° auto-rotation cleaner



称重模块  
Weighing module



卧式减速机  
Horizontal reducer



卫生级地漏  
Sanitation grade floor drain

卫生级泵系列  
SANITARY  
PUMP SERIES



凸轮转子泵  
Cam Rotor Pump



单级乳化泵  
Single Stage Emulsification Pump



卫生级离心泵  
Sanitation-grade Centrifugal Pump



卫生级离心泵  
Sanitation-grade Centrifugal Pump



CIP 自吸泵  
CIP self-priming Pump



采用SUS316L或SUS304不锈钢制造，采用快开式结构对物料无污染便于清洗，符合GMP质量标准要求。

该机接口采用ISO标准卡箍式联接，整体全部采用不锈钢制造，配有普通或防爆电机。适合于各种场合对液体物料的输送，确保生产过程符合GMP医药标准。

Adopting SUS316L or SUS304 stainless steel as raw material. Quick-open structure will not pollute materials and is convenient for cleaning, which is in accordance with GMP quality standard requirements.

The joint of the machine adopts ISO-standard clip connection. The machine is wholly made of stainless steel and is equipped with ordinary or explosion-proof dynamo. It is fit for liquid materials delivery in different circumstances and the production process is completely in accordance with GMP medical standard.

卫生级不锈钢阀门 / 管件系列  
SANITARY GRADE STAINLESS STEEL  
VALVES/PIPELINES SERIES



注：具体阀门管件按客户要求的材质及不同标准制作。  
Note: The detailed valve pipe fittings can be manufactured according to the materials and different standards required by customers.