

## AM系列安瓿检漏灭菌柜 AM Series Ampoule Leak Sterilizer

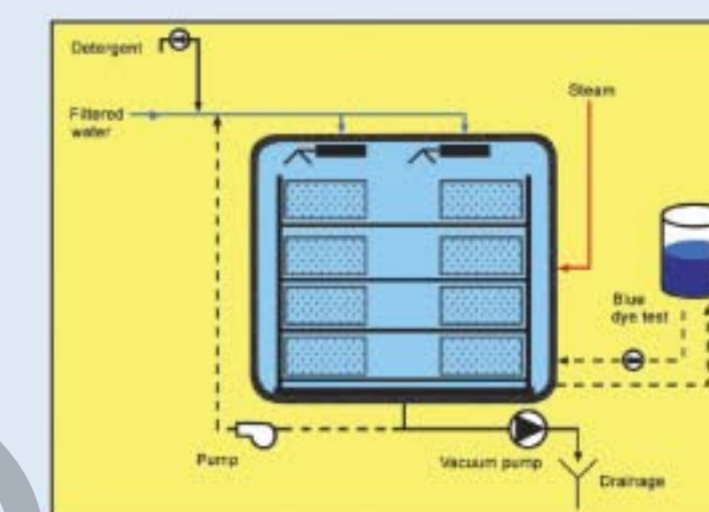


AM系列安瓿检漏灭菌柜是一种高性能、智能化的安瓿灭菌检漏清洗设备。本设备采用触摸屏加PLC控制。主要用于安瓿、口服液、小输液瓶等药品制剂的灭菌和检漏处理。该设备设计先进、结构合理、控制高档。灭菌结束后通过真空或真空加色水检漏，保证废品检出率100%。最后还用纯水进行清洗处理，保证瓶外壁干净无污染。

This series is a kind of high-performance and high-intelligence equipment for sterilizing, leak detecting and cleaning, which adopts colorful touching screen and PLC, applicable to treating of ampoule, oral medicine, small infusion bottle, etc. After sterilization, by means of vacuum or vacuum plus water, the detecting rate of waster is assured to be 100%. Finally washing treatment is carried out with pure water to ensure surface of bottle clean and uncontaminated.

### 主要技术参数 Main Parameters and Utilities

设计压力 Design Pressure	0.245Mpa	真空度 Vacuum	-0.095Mpa
工作压力 Working Pressure	0.22Mpa	蒸汽源压力 Steam Source Pressure	0.4-0.6Mpa
设计温度 Design Temperature	139℃	水源压力 Water Source Pressure	0.2-0.3Mpa
工作温度 Working Temperature	134℃	压缩空气压力 Compressed Air Pressure	0.6-0.8Mpa
热均匀度 Heat equilibrium	≤ ±1℃		



可靠的检漏方式

真空检漏试验  
vacuum leak testing

色水检漏试验  
color water leak testing

### 尺寸规格 Size & Utilities

型号 Model	外型尺寸 Overall Size L×W×H (mm)	内室尺寸 Chamber Size L×W×H (mm)	蒸汽 Steam Consumption (kg/cycle)	压缩空气耗量 Compressed Air Consumption (m <sup>3</sup> /cycle)	冷却水耗量 Cooling Water Consumption (kg/cycle)	灭菌车 Loading Cart (pcs)	电源 Power (Kw)	净重 Net Weight (kg)
AM-0.36	1195 × 1220 × 1720	1000 × 600 × 600	55	0.5	300	-	3	760
AM-0.6	1245 × 1300 × 1880	1050 × 680 × 850	75	0.8	400	-	3.5	1100
AM-1.2	1695 × 1370 × 1960	1500 × 750 × 1100	85	1.5	800	2	4	1900
AM-1.8	2445 × 1370 × 1960	2250 × 750 × 1100	100	2.0	1200	3	4.5	2450
AM-2.5	3195 × 1370 × 1960	3000 × 750 × 1100	180	3.0	1500	4	6	2800
AM-5.0	3635 × 1800 × 2200	3400 × 1000 × 1500	300	5.5	2500	4	8	4500

### 结构·性能·特点 Structure & Capability & Characteristics

- 1、严格按照GB150《钢制压力容器》设计制造验收的箱体  
Vessels is designed to the China National Standard -GB150《Steel Pressure Vessel》
- 2、国家专利的门锁装置  
National patent door interlock device.
- 3、国家专利的内充气式密封技术  
National patent sealing technology- closed inflatable seal ring with compressed air.
- 4、控制系统由PLC+触摸屏组成,先进的数据记录,打印,存盘功能  
Control system is integrated by PLC+ HMI, advanced function for recording,printing and storing.
- 5、设备附有标准的16个温度探头的GMP验证口  
The GMP validation port is provided for insertion of 16 temperature sensors for validation.

### 装载量 Loading capacity

型号 Model	1ML	2ML	5ML	10ML	20ML
AM-0.36	37440	26100	10000	6800	3700
AM-0.6	74880	52224	20160	13680	7500
AM-1.2	127816	81664	33984	22400	11424
AM-1.8	191724	122496	50976	33600	17136
AM-2.5	255632	163328	67968	44800	22848
AM-5.0	605568	380160	169344	98208	56160

注：以上装载量仅供参考，实际装载量会因装载方式、瓶子规格尺寸而有所不同。  
Note: The loading above is just for reference, the actual loading will be different because of the loading method and bottle sizes.

## CG系列纯蒸汽灭菌柜 CG Serise Pure Steam Sterilizer



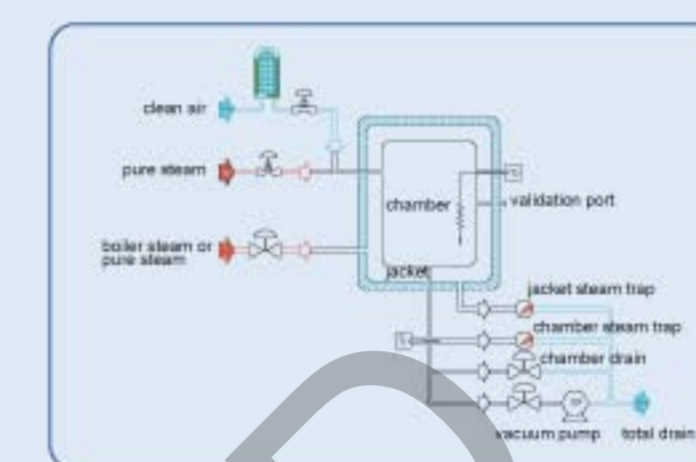
生物制药过程中，无菌、无热源的要求很高，相应对灭菌柜也提出了更高的要求。  
该系列设备主要用于生物制药行业对以下几大类产品的高温灭菌操作：百级洁净区域的无菌衣；各种搞抗生素灌装用的胶塞、冻干粉西林瓶及胶塞等。

该系列产品为内外双层结构，工作过程中内层为纯蒸汽，套层采用普通锅炉蒸汽，同时具有真空排气及干燥功能。

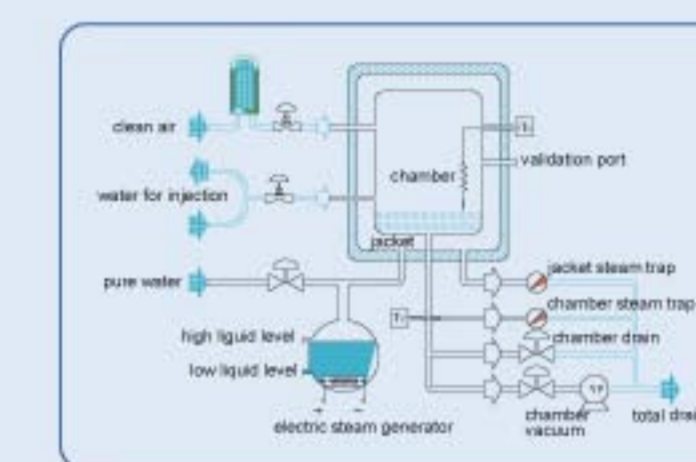
During the course of biotic pharmaceuticals, there is a high requirement for asepsis and heat-free source, accordingly there is also an even higher requirement for sterilizer.

It is design for use in pharmaceutical, biotechnological producing industries for sterilization and treatment of rubber stoppers, fabric and instruments.

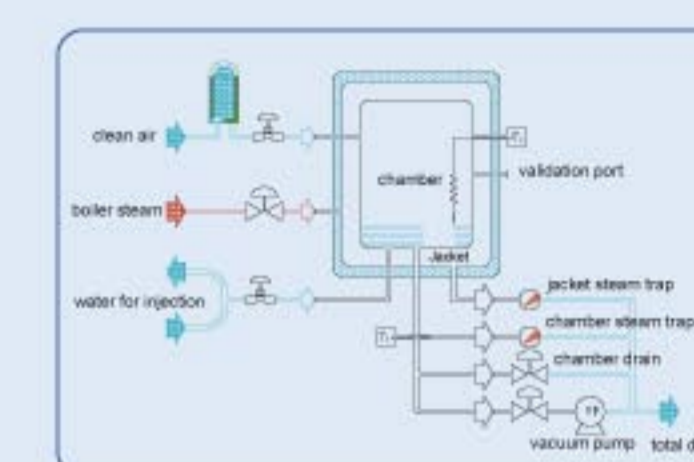
The structure of this series has double layers. During working, pure steam is full of the chamber, while the jacket uses industrial steam. It has two functions of vacuum exhaust and drying.



General Type



Electric Heating



Steam Heating

### 主要技术参数 Main Parameters and Utilities

设计压力 Design Pressure	0.245Mpa	真空度 Vacuum	-0.095Mpa
工作压力 Working Pressure	0.22Mpa	工业蒸汽源压力 Industrial Steam Pressure	0.4-0.6Mpa
设计温度 Design Temperature	139℃	水源压力 Tap Water Pressure	0.2-0.3Mpa
工作温度 Working Temperature	134℃	压缩空气源压力 Compressed Air Pressure	0.6-0.8Mpa
热均匀度 Heat equilibrium	≤ ± 1℃	注射用水/纯蒸汽 WFI / Pure Steam Pressure	0.2-0.3Mpa

### 结构·性能·特点 Structure & Capability & Characteristics

- 1、过滤器在线灭菌  
Filter in-line sterilization
- 2、过滤器完整性测试  
Filter integrity testing
- 3、设备附有标准的16个温度探头的GMP验证口  
The GMP validation port is provided for insertion of 16 temperature sensors for validation.
- 4、可配备符合P III、PIV实验室要求的保压灭活和灭活罐灭活系统  
Pressure keeping inactivate system and inactivate container inactivate system can be fixed according to the requirements of P III, PIV lab.
- 5、真空泵前装有冷却蒸汽冷凝装置  
The steam condenser is fitted in the exhaust/vacuum line to condense the steam before entering inside the vacuum pump.
- 6、客户可选配内置式蒸汽发生器  
The built-in steam generator is optional.

### 尺寸规格 Size & Utilities

型号 Model	外型尺寸 Overall Size L × W × H (mm)	内室尺寸 Chamber Size L × W × H (mm)	最大蒸汽耗量 Max Steam Consumption (kg/cycle)	水耗量 Tap Water Consumption (kg/cycle)	电源 Power (Kw)	净重 Net Weight (kg)
CG-0.1	825 × 1080 × 1600	630 × 400 × 480	80	15	1.0	380
CG-0.25	895 × 1220 × 1720	700 × 600 × 600	150	20	1.5	650
CG-0.36	1195 × 1220 × 1720	1000 × 600 × 600	180	25	1.5	760
CG-0.6	1245 × 1300 × 1880	1050 × 680 × 850	200	30	2.0	1100
CG-0.8	1595 × 1300 × 1880	1400 × 680 × 850	250	35	3.0	1300
CG-1.2	1695 × 1370 × 1960	1500 × 750 × 1100	300	40	3.0	1900
CG-2.5	3195 × 1370 × 1960	3000 × 750 × 1100	500	75	4.5	2800
CG-5.0	3635 × 1800 × 2200	3400 × 1000 × 1500	700	150	7.5	4500

## DZG系列多功能中药灭菌柜 DZG Series Multifunctional Chinese Medicine Sterilizer



以往中药消毒大体采用钴60、环氧乙烷、酒精、微波、臭氧等方法。这些方法难以保证药性，或有残留，或费用昂贵。

经试验，蒸汽杀菌是一种最适合用于中药杀菌的手段，为此，我们设计该系列多功能中成药灭菌柜。这种灭菌柜为卧式长方型，采用内、外蒸汽加热的方法，这样柜体的空间就得以充分的利用。柜体内部还设计有独特的防潮装置，可有效消除传统蒸汽灭菌的中药粉剂结块现象。本灭菌柜适用于中药厂及食品加工企业，主要用于含生药原粉的中成药产品及各种香辛料等调味品进行灭菌。

Generally, sterilization for Chinese herbal medicine adopts cobalt 60, ethylene oxide, alcohol, microwave and ozone etc. These methods are hard to guarantee medicine's property, easy to have remains or lead to high cost. After testing, steam is the most suitable method for sterilizing herbal medicine. So we designed this series of sterilizers, with horizontal and rectangular shape. By means of in-and-out steam heating, the space of the cabinet can be fully utilized. In the cabinet, there is a special of damp proof equipment to eliminate effectively lump phenomena of herbal powder caused by traditional steam sterilization. It is applicable to Chinese Medicine Pharmaceutical Factories and Food Processing Factories.

### 主要技术参数 Main Parameters and Utilities

设计压力 Design Pressure	0.245Mpa	真空度 Vacuum	-0.095Mpa
工作压力 Working Pressure	0.22Mpa	蒸汽源压力 Steam Pressure	0.4-0.6Mpa
设计温度 Design Temperature	139℃	水源压力 Tap Water Pressure	0.2-0.3Mpa
工作温度 Working Temperature	134℃	压缩空气压力 Compressed Air Pressure	0.6-0.8Mpa
热均匀度 Heat equilibrium	≤ ± 1℃		

### 结构·性能·特点 Structure & Capability & Characteristics

- 1、严格按照GB150《钢制压力容器》设计制造验收的箱体  
Vessels is designed to the China National Standard -GB150《Steel Pressure Vessel》
- 2、控制系统由PLC+触摸屏组成,先进的数据记录,打印,存盘功能  
Control system is integrated by PLC+ HMI, advanced function for recording, printing and storing.
- 3、设备附有标准的16个温度探头的GMP验证口  
The GMP validation port is provided for insertion of 16 temperature sensors for validation.
- 4、独特的防潮装置  
Unique damp proof device

### 灭菌后药粉指标

霉菌、杂菌 < 10cfu/g

药粉松散不易结块 (品种不同, 情况不同)

药粉含水量 ≤ 5% (干燥效果)

药粉不易变色

Medical powder condition after sterilizing

- 1) Mold, microbial < 10cfu/g
- 2) Powder is inattentive and difficult to agglomerate. (depend on the nature of the product)
- 3) Water content ≤ 5% (drying effect)
- 4) Difficult to change color



用途:适用于对香辛料、中药粉、健康食品、谷类、鱼粉类、干燥野菜、茶叶等的灭菌干燥。

Application: It is suitable for flavor, Chinese medical powder, healthy product, rice, fish power, potherb, tea, etc.

### 尺寸规格 Size & Utilities

型号 Model	外型尺寸 Overall Size L × W × H (mm)	内室尺寸 Chamber Size L × W × H (mm)	蒸汽 Steam (kg/cycle)	自来水 Tap Water Consumption (kg/cycle)	装载量 Loading (kg)	灭菌车 Loading Cart (pcs)	电源 Power (Kw)	净重 Net Weight (kg)
DZG-0.36	1195 × 1220 × 1720	1000 × 600 × 600	50	400	30-50	-	1.5	760
DZG-0.6	1245 × 1300 × 1880	1050 × 680 × 850	60	500	60-90	-	2	1100
DZG-0.8	1595 × 1300 × 1880	1400 × 680 × 850	70	700	80-130	1	3	1300
DZG-1.2	1695 × 1370 × 1960	1500 × 750 × 1100	80	700	120-230	2	3	1900
DZG-2.5	3195 × 1370 × 1960	3000 × 750 × 1100	160	1200	250-480	4	4.5	2800
DZG-5.0	3635 × 1800 × 2200	3400 × 1000 × 1500	350	1600	500-900	4	7.5	4500
DZG-8.0	5635 × 1800 × 2200	5400 × 1000 × 1500	450	1600	800-1500	6	7.5	7500

## XG系列旋转水浴式灭菌柜 XG series Rotatory Super Water Sterilizer



该设备采用过热水进行喷淋，主要设计用于灭菌装在密闭容器中的液体，例如氨基酸和脂肪乳。在整个灭菌过程中为了保证灭菌的温度均匀及避免药液凝结或分层，我们提供了一种可旋转装载系统结构，装载灭菌物品的灭菌车以一个可调整的速度不断地旋转。

我们精密的设计和精湛的加工技术，将使您价格不菲的产品获得最佳的灭菌效果。

This sterilizer is designed especially to sterilize fluids in sealed containers using a spray water system. This process has the advantage of excellent cycle time vastly reducing conventional cooling periods for fluids loads. In order to obtain a homogenous heat transmission and to avoid coagulation in certain liquid loads such as amino acids, fat emulsions etc, the sterilizer can be provided with a rotating cage assembly which is specially constructed to guide and support the loading carts whilst they are rotated in the chamber. Our precise design and exquisite processing technology will provide your products with the best sterilizing results.

### 主要技术参数 Main Parameters and Utilities

设计压力 Design Pressure	0.245Mpa	蒸汽源压力 Steam Pressure	0.4-0.6Mpa
工作压力 Working Pressure	0.22Mpa	水源压力 Water Pressure	0.1-0.3Mpa
设计温度 Design Temperature	139℃	压缩空气压力 Compressed Air Pressure	0.5-0.7Mpa
工作温度 Working Temperature	60-134℃	纯水 Pure Water Pressure	0.1-0.2Mpa
热均匀度 Heat Equilibrium	≤ ±0.5℃	转速 (变频调速) (Rotation Speed)	1-20rpm

### 尺寸规格 Size & Utilities

型号 Model	外型尺寸 Overall Size L×W×H (mm)	内室尺寸 Chamber Size DxL (mm)	蒸汽耗量 Steam Consumption (kg/cycle)	纯水耗量 Tap Water Consumption (kg/cycle)	冷却水耗量 Tap Water (kg/cycle)	灭菌车 Loading Cart (pcs)	电源 Power (Kw)	净重 Net Weight (kg)
XG-0.6	1825 × 1905 × 1850	φ 1100 × 1580	90	80	1500	2	6	2200
XG-1.2	2565 × 2070 × 2050	φ 1250 × 2320	170	150	4500	2	6	3500
XG-2.5	3355 × 2215 × 2200	φ 1400 × 3080	300	250	7000	4	8	5800
XG-3.0	4155 × 2215 × 2200	φ 1400 × 3880	400	300	8000	4	10	6200
XG-5	3520 × 5000 × 3050	φ 2000 × 3100	580	500	15000	4	12	7500
XG-7	4380 × 5000 × 3050	φ 2000 × 3950	700	750	18000	4	15	9700
XG-11	7180 × 5000 × 3050	φ 2000 × 6750	850	1000	30000	6	18	12000
XG-12	5280 × 6000 × 3500	φ 2500 × 4800	1000	1200	35000	4	18	13500

### 结构·性能·特点 Structure & Capability & Characteristics

- 1、严格按照GB150《钢制压力容器》设计制造验收的箱体  
Vessels is designed to the China National Standard -GB150《Steel Pressure Vessel》
- 2、控制系统由PLC+触摸屏组成,先进的数据记录,打印,存盘功能  
Control system is integrated by PLC+ HMI, advanced function for recording, printing and storing.
- 3、设备附有标准的16个温度探头的GMP验证口  
The GMP validation port is provided for insertion of 16 temperature sensors for validation.
- 4、独立的温度监控系统  
Independent temperature monitoring system
- 5、无级变频调速  
Stepless variable-frequency speed control

### 装载量 Loading capacity

型号 Model	500ml	250ml	100ml	10ml	5ml	2ml
XG-0.6	240	512	864	8960	14840	28800
XG-1.2	504	864	1980	18600	31104	60624
XG-2.5	896	1280	2880	38400	59248	133120
XG-3.0	1120	1920	3840	49920	77280	178944
XG-5	2000	3600	6480	84500	138000	305000
XG-7	2400	4224	8320	147800	232000	529000
XG-11	4320	7392	14040	186500	299000	734000
XG-12	5700	10260	18470	227000	368000	892800

注：以上装载量仅供参考，实际装载量会因装载方式、瓶子规格尺寸而有所不同。  
Note: The loading above is just for reference, the actual loading will be different because of the loading method and bottle sizes.

## FG 系列通风式灭菌柜 FG Series Ventilate Super Water Sterilizer



工程实例



工程实例

通风水浴式灭菌柜采用过热水喷淋方式灭菌，灭菌结束后，通过一个或多个高能双速鼓风机强制进行循环对流冷却，对物品进行干燥处理。设备可以用于各种包装的安瓶或者大输液的灭菌及干燥，在灭菌出来后直接进入下一道工序，如检查、贴标签、包装等。

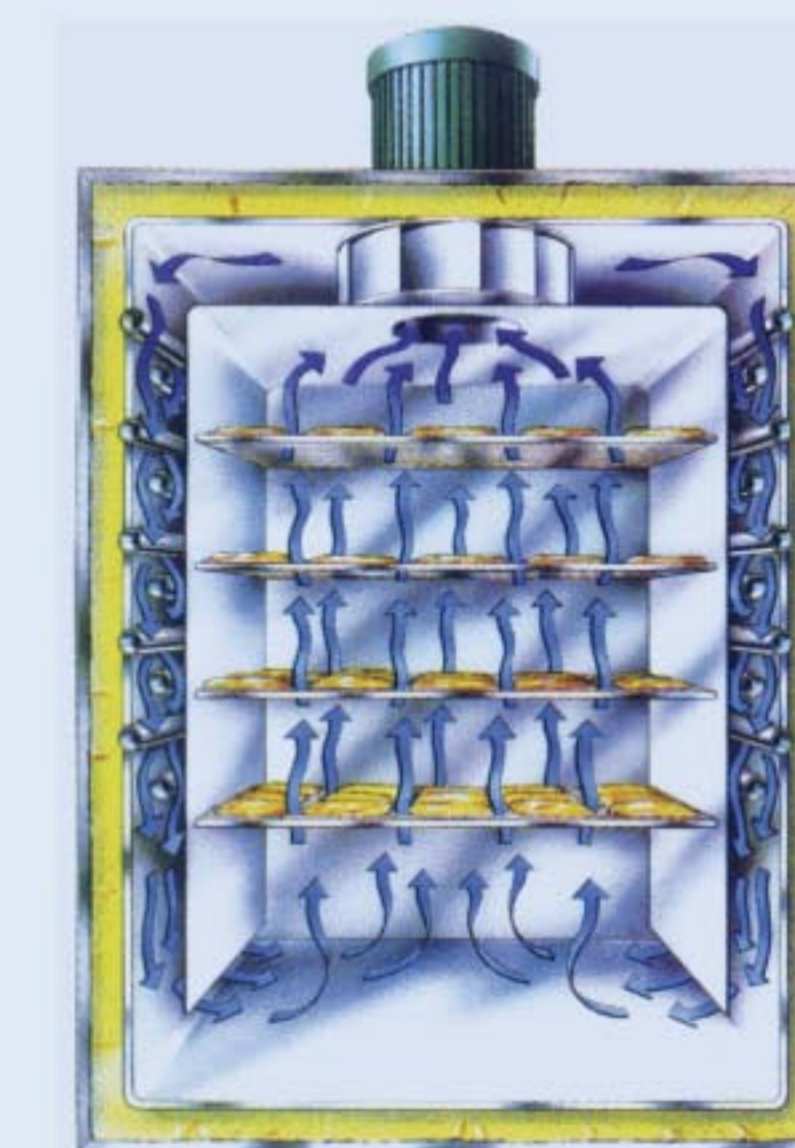
This series adopts the sterilization principle of mixed pressure by air and steam. Through one or several double-speed air blowers with high energy, the mixed gas compellingly cycles in the middle of sterilizing products. This not only provides better heat penetrability, but also guarantees the even distribution of temperature. This series is mainly designed to sterilize products whose container and package must be dried after cooling (ex. checking, labeling, packing, etc.) It is suitable for all industries to sterilize PE or PP plastic bottles and PVC or compound plastic soft package liquids.

### 主要技术参数 Main Parameters and Utilities

设计压力 Design Pressure	0.245Mpa	热均匀度 Heat Equilibrium	≤ ±0.5℃
工作压力 Working Pressure	0.22Mpa	蒸汽源压力 Steam Pressure	0.4-0.6Mpa
设计温度 Design Temperature	139℃	水源压力 Water Pressure	0.1-0.3Mpa
工作温度 Working Temperature	134℃	压缩空气压力 Compressed Air Pressure	0.5-0.7Mpa

### 结构·性能·特点 Structure & Capability & Characteristics

- 1、严格按照GB150《钢制压力容器》设计制造验收的箱体  
Vessels is designed to the China National Standard -GB150 《Steel Pressure Vessel》
- 2、电动平移门操作简单、可靠  
Electric translational door, easy to operate, flexible.
- 3、门采用充气式硅橡胶密封，密封可靠  
Door is sealed up with silicon rubber, it is sealed and reliable .,
- 4、设备附有标准的GMP验证接口  
The GMP confirmation access is fixed on the equipment
- 5、精确的温控技术，准确的实时全程压力跟踪  
Excellent PID temperature controlling technology, accurate pressure tracking on real-time
- 6、独立的温度监控系统  
Independent temperature monitoring system
- 7、快速均匀的冷却、干燥系统  
Rapid cooling and drying system



工作原理效果图 Working Schematic

### 尺寸规格 Size & Utilities

型号 Model	外型尺寸 Overall Size L × W × H (mm)	内室尺寸 Chamber Size L × W × H (mm)	蒸汽消耗量 Steam Consumption (kg/cycle)	压缩空气消耗量 Compressed Air Consumption (m³/cycle)	冷却水耗量 Cooling Water Consumption (kg/cycle)	灭菌车 Loading Cart (pcs)	电源 Power (Kw)	净重 Net Weight (kg)
FG-1.2	1910 × 3400 × 2130	1500 × 1300 × 1300	85	2	1200	2	4	2000
FG-2.5	3410 × 3400 × 2130	3000 × 1300 × 1300	120	3.5	2000	4	5.5	3500
FG-5	3850 × 3700 × 2230	3400 × 1600 × 1700	250	6	4000	4	6.5	6000
FG-8	5850 × 3700 × 2230	5400 × 1600 × 1700	500	9	5500	5	8	8500
FG-10	7150 × 3700 × 2300	6700 × 1600 × 1700	650	12	6500	6	10	11000
FG-12	8450 × 3700 × 2230	8000 × 1600 × 1700	850	15	7500	8	12	13000
FG-14	9850 × 3700 × 2230	9400 × 1600 × 1700	1000	18	8500	10	15	15000

## KG 系列快速冷却灭菌柜 KG Rapid Cooling Sterilizer



KG系列快速冷却灭菌柜是新一代全自动程序控制、全不锈钢双扉矩形压力蒸汽灭菌柜。全程温度、时间曲线自动描绘记录，并具有F0值预设、显示和打印功能。该机采用高性能PLC全程检测控、设手控、自控两大操作系统，并附有标准GMP验证接口。设备具有预真空、高温快速灭菌及灭菌后快速冷却等先进功能，加上独特的反压保护措施，能对各种耐温热的瓶装、罐装物品进行可靠的灭菌操作。

This series is a new-generation pressure steam sterilizer, automatically controlled by program with double rectangular stainless steel doors. It can automatically draw and record the curves of temperature and time, and it also has functions of presetting, displaying and printing F values. This equipment adopts high performance PLC testing control, two operating systems (manual and automatic) and standard interfaces qualified by GMP. With the following advanced functions, lick pre-vacuum, high temperature quick sterilization quick cooling after sterilization and special anti-pressure protection device, this equipment can reliably sterilize all kinds of damp-heat resisting products in bottles and cans.

### 主要技术参数 Main Parameters and Utilities

设计压力 Design Pressure	0.245Mpa	真空度 Vacuum	-0.095Mpa
工作压力 Working Pressure	0.22Mpa	蒸汽源压力 Steam Pressure	0.4-0.6Mpa
设计温度 Design Temperature	139℃	水源压力 Water Pressure	0.1-0.3Mpa
工作温度 Working Temperature	134℃	压缩空气压力 Compressed Air Pressure	0.5-0.7Mpa
热均匀度 Heat equilibrium	≤ ± 1℃		

### 结构·性能·特点 Structure & Capability & Characteristics

- 1、严格按照《钢制压力容器》设计制造验收的箱体  
The box is designed, produced and tested strictly according to the 《Steel Pressure Vessel》.
- 2、设备附有标准的GMP验证接口  
The GMP confirmation access is fixed on the equipment
- 3、组合框架结构的灭菌车  
Constituted frame sterilizing cart
- 4、效果极佳的快速冷却装置  
Excellent rapid cooling device

### 尺寸规格 Size & Utilities

型号 Model	外型尺寸 Overall Size L × W × H (mm)	内室尺寸 Chamber Size L × W × H (mm)	蒸汽耗量 Steam (kg/cycle)	压缩空气耗量 Compressed Air Consumption (m <sup>3</sup> /cycle)	冷却水耗量 Cooling Water Consumption (kg/cycle)	灭菌车 Sterilizing Car (pcs)	电源 Power (Kw)	净重 Net Weight (kg)
KG-1.2	1695 × 1370 × 1960	1500 × 750 × 1100	85	1	800	2	3	1900
KG-2.5	3195 × 1370 × 1960	3000 × 750 × 1100	120	2	1500	4	5.5	2800
KG-3	2235 × 1800 × 2200	2000 × 1000 × 1500	140	2.2	1800	2	5.5	3500
KG-5	3635 × 1800 × 2200	3400 × 1000 × 1500	250	4	3000	3	8	4500
KG-8	5635 × 1800 × 2200	5400 × 1000 × 1500	500	6	4500	5	8	7500
KG-10	6935 × 1800 × 2200	6700 × 1000 × 1500	650	8	5500	6	10	9800

### 装载量 Loading capacity

型号 Model	100ml	250ml	500ml
KG-1.2	2016	990	544
KG-2.5	3920	1980	1088
KG-3	4620	2340	1370
KG-5	7868	3960	2160
KG-8	12852	6652	3780
KG-10	15736	7920	4320

注：以上装载量仅供参考，实际装载量会因装载方式、瓶子规格尺寸而有所不同。

Note: The loading above is just for reference, the actual loading will be different because of the loading method and bottle sizes.

## ZRJ 系列中药润药机

### ZRJ Wetting Machine of Chinese Traditional Medicine



中药润药机是根据蒸汽具有强力穿透性的特点，将处于真空状态下的药材，通入低温蒸汽，蒸汽快速穿透到药材内部，使药材快速均匀软化。

中药润药机是中药炮制加工的新颖设备，透用于中药材的快速浸润，能确保“药透水尽”，不但能最大限度地保留药效成分，且可提高饮片质量。经蒸汽润药后切制的饮片，含水量低，容易干燥。

本设备按压力容器规范设计、制作，柜门使用专利技术，密封良好，开启方便。本设备不仅用于中药材的浸润，也可用于药材的蒸汽灭菌，因此在中药材的炮制加工中，具有广阔的应用前景。

According to the excellent penetrability of vapor, the wetting machine of Chinese Traditional Medicine works in the following principle; the vapor in low temperature rapidly goes into the inner of medicinal materials which are in the vacuum and then soften them in a rapid way.

It is a new type machine for the making and processing of Chinese Traditional Medicine, making Chinese Traditional Medicine material penetrated quickly and completely. This can not only preserve medicinal composition of medicine in most extent, but also improve the quality of medicinal slices. After vapor wet treating, the medicinal slices are in low water content and are easily dried.

The machine is designed and produced according to the criterion of pressure vessel. The door of device adopts patent technology, so it have very good seal performance in the same time can operate in convenience. The machine can be use for not only wetting Chinese Traditional Medicine, but also by vapor sterilizing them. It has a broad application foreground in the making of Chinese Traditional Medicine materials.

### 主要技术参数 Main Parameters and Utilities

设计压力 Design Pressure	0.245Mpa	真空度 Vacuum	-0.095Mpa
工作压力 Working Pressure	0.22Mpa	蒸汽源压力 Steam Pressure	0.4-0.6Mpa
设计温度 Design Temperature	139℃	水源压力 Water Pressure	0.1-0.3Mpa
工作温度 Working Temperature	134℃	压缩空气压力 Compressed Air Pressure	0.5-0.7Mpa
热均匀度 Heat equilibrium	≤ ± 1℃		

### 结构·性能·特点 Structure & Capability & Characteristics

- 1、严格按照《钢制压力容器》设计制造验收的箱体  
The box is designed, produced and tested strictly according to the 《Steel Pressure Vessel》.
- 2、操作简单，灵活轻捷的电动平移门  
Pneumatic translational door, easy to operate, flexible
- 3、独特的耐高温硅橡胶燕尾型嵌入式设计，确保门的密封性  
The unique dove-tail inlaid design of heat-resisting silicone rubber gasket ring ensures the seal tightness of the door
- 4、可靠稳定的微电脑PLC + 触摸屏控制  
Reliable and stable micro-computer automatic control PLC + touch screen control, advanced function for recording, printing and storing, etc.
- 5、精美的不锈钢装饰外罩  
Elegant stainless steel decorate cover:
- 6、设备附有标准的GMP验证接口  
The GMP confirmation access is fixed on the equipment
- 7、独特的润药工艺，药透水尽  
The special wetting technics can make the medicine wetting rapidly and efficiently.

### 尺寸规格 Size & Utilities

型号 Model	外型尺寸 Overall Dimensions L × W × H (mm) 单扉/双扉 Single/Double Door	内室尺寸 Chamber Size L × W × H (mm)	蒸汽 Steam Consumption (kg/cycle)	自来水 Tap Water Consumption (kg/cycle)	灭菌车 Sterilizing Cart	电源 Power (Kw)	净重 Net Weight (kg)
ZRJ-0.3	1195 × 1220 × 1720	1000 × 600 × 600	25	200	non	1.5	760
ZRJ-0.6	1245 × 1300 × 1880	1050 × 680 × 850	30	250	non	2.0	1100
ZRJ-1.2	1695 × 1370 × 1960	1500 × 750 × 1100	40	350	2	3.0	1900
ZRJ-2.5	3195 × 1370 × 1960	3000 × 750 × 1100	80	600	4	4.5	2800
ZRJ-5.0	3635 × 1800 × 2200	3400 × 1000 × 1500	170	800	4	7.5	4500
ZRJ-8.0	5635 × 1800 × 2200	5400 × 1000 × 1500	300	1000	6	7.5	7500

## SYG系列摇摆式灭菌柜 SYG series Swing Sterilizer



本系列设备主要适用于混悬剂和乳剂的灭菌。在整个灭菌过程中，设备处于密闭状态并且运行稳定，温度均匀，完全符合GMP要求。设备装载系统通过驱动装置带动摇摆。我们精密的设计和精湛的加工技术，将使您价格不菲的产品获得最佳的灭菌效果。

This machine is high technology integrative product, which can fully meet requirement of GMP.

It is mainly apply to sterilization for suspension and emulsion. During the whole process, the machine runs stably with good seal. The loading system is propelled by the drive unit.

Our precise design and exquisite processing technology will provide your products with the best sterilizing results.

### 主要技术参数 Main Parameters and Utilities

设计压力 Design Pressure	0.245Mpa	蒸汽源压力 Steam Pressure	0.4-0.6Mpa
工作压力 Working Pressure	0.22Mpa	水源压力 Water Pressure	0.1-0.3Mpa
设计温度 Design Temperature	139℃	压缩空气压力 Compressed Air Pressure	0.5-0.7Mpa
工作温度 Working Temperature	60-134℃	纯水 Pure Water Pressure	0.1-0.2Mpa
热均匀度 Heat Equilibrium	≤ ± 0.5℃	转速（变频调速）（Rotation Speed）	1-20rpm

### 结构·性能·特点 Structure & Capability & Characteristics

- 1、严格按照GB150《钢制压力容器》设计制造验收的箱体  
Vessels is designed to the China National Standard -GB150《Steel Pressure Vessel》
- 2、国家专利的门锁装置  
National patent door interlock device.
- 3、国家专利的内充气式密封技术  
National patent sealing technology- closed inflatable seal ring with compressed air.
- 4、控制系统由PLC+触摸屏组成,先进的数据记录,打印,存盘功能  
Control system is integrated by PLC+ HMI, advanced function for recording,printing and storing.
- 5、保温层采用硅酸铝保温  
The heat insulation layer is made by aluminium silicate.
- 6、设备附有标准的16个温度探头的GMP验证口  
The GMP validation port is provided for insertion of 16 temperature sensors for validation.
- 7、独立的温度监控系统  
Independent temperature monitoring system

### 尺寸规格 Size & Utilities

型号 Model	外型尺寸 Overall Dimensions L × W × H (mm)	内室尺寸 Chamber Size DxL (mm)	蒸汽耗量 Steam Consumption (kg/cycle)	纯水耗量 Pure Water Consumption (kg/cycle)	冷却水耗量 Tap Water (kg/cycle)	灭菌车 Loading Cart (pcs)	电源 Power (KW)	净重 Net Weight (kg)
SYG-0.6	1825 × 1900 × 1850	φ 1100 × 1580	90	80	1500	2	6	2200
SYG-1.2	2565 × 2070 × 2050	φ 1250 × 2320	170	150	4500	2	6	3500
SYG-2.0	3845 × 2070 × 2050	φ 1250 × 3600	250	200	5200	4	8	4800
SYG-2.5	3355 × 2070 × 2200	φ 1400 × 3080	300	250	7000	4	8	5800
SYG-3.0	4155 × 2070 × 2200	φ 1400 × 3880	400	300	8000	4	10	6200



## MXJ系列灭菌型洗衣机 MXJ Sterilization Washing Machine



我公司生产的MXJ系列灭菌洗衣机是新一代适用于医疗及制药生产过程的无菌环境中的洁净工作服的洗涤、灭菌、干燥的多功能设备。灭菌洗衣机严格按照GB 12021.4-2004《电动洗衣机能效限定值及能源效率等级》、GB 17202-1997《工业电动洗衣机安全要求》、GB/T 4288-2008《家用和类似用途电动洗衣机》、GB150-2011《压力容器》和TSG R0004-2009《固定式压力容器安全技术监察规程》设计、制造、验收。灭菌洗衣机可以在同一设备内完成进衣物、浸洗、粗洗、精洗、脱水预干、灭菌、干燥、冷却、出衣物等操作过程，达到缩短洗衣流程和洗衣周期时间及减少污染的目的。

This series is a new-generation steam sterilizer which can also function as a washer. The whole process could be divided into the seven steps of soaking, washing coarse, exquisite wash, dehydration, sterilization, drying and cooling. With better control of temperature, pressure and time, the dressing materials are sterilized and dried quickly and effectively. This product is applicable to pharmaceutical factories and hospitals. It could be used not only as an autoclave but also as a washer.

### 结构·性能·特点 Structure & Capability & Characteristics

- 1、严格按照GB150《钢制压力容器》设计制造验收的箱体  
Vessels is designed to the China National Standard -GB150《Steel Pressure Vessel》
- 2、电动平移门操作简单、可靠  
Electric translational door, easy to operate, flexible.
- 3、门采用充气式硅橡胶密封，密封可靠  
Door is sealed up with silicon rubber, it is sealed and reliable .
- 4、设备附有标准的GMP验证接口  
The GMP confirmation access is fixed on the equipment
- 5、精确的温控技术，准确的实时全程压力跟踪  
Excellent PID temperature controlling technology, accurate pressure tracking on real-time
- 6、独立的温度监控系统  
Independent temperature monitoring system

### 设备型号和基本参数 Main technical parameters

设计温度Design Temperature	139℃			
设计压力Design Pressure	0.245Mpa			
过程时间Cycle time	整个过程时间约3小时The whole process lasts about 3 hours			
型号Model	MXJ-5000	MXJ-4000	MXJ-3000	MXJ-2000
功率 Power	30Kw	27Kw	21Kw	18Kw
外形尺寸 Overall Size L*W*H(mm)	2250*3700*2500	2250*3150*2500	2000*2700*2350	1940*2600*2250
筒体尺寸 Chamber Size D*L(mm)	φ 1600*2500	φ 1600*2000	φ 1400*2000	φ 1350*1500
滚筒容积 Chamber volume	5000L	4000L	3000L	2000L
生产能力 Capacity	可洗衣服 500-600套/批 Dressing materials, 500-600 sets/batch.	可洗衣服400-480套/批 Dressing materials, 400-480 sets/batch.	可洗衣服300-360套/批 Dressing materials, 300-360 sets/batch.	可洗衣服200-240套/批 Dressing materials, 300-360 sets/batch

设计温度Design Temperature	139℃			
设计压力Design Pressure	0.245Mpa			
过程时间Cycle time	整个过程时间约3小时The whole process lasts about 3 hours			
型号Model	MXJ-1000	MXJ-500	MXJ-200	MXJ-100
功率 Power	15Kw	10Kw	8Kw	4Kw
外形尺寸 Overall Size L*W*H(mm)	1690*2250*2020	1460*2040*1830	1250*1880*1650	1100*1600*1500
筒体尺寸 Chamber Size D*L(mm)	φ 1100*1150	φ 870*960	φ 630*800	φ 480*600
滚筒容积 Chamber volume	1000L	500L	200L	100L
生产能力 Capacity	可洗衣服100-120套/批 Dressing materials, 100-120 sets/batch.	可洗衣服50-60套/批 Dressing materials, 50-60 sets/batch.	可洗衣服15-20套/批 Dressing materials, 15-20 sets/batch.	可洗衣服5-8套/批 Dressing materials, 5-8 sets/batch.

## ZDG系列振动式灭菌柜 ZDG Oscillating Sterilizer



本系列设备主要适用于混悬剂和乳剂的灭菌，设计制造完全符合GMP要求。在整个灭菌过程中，设备处于密闭状态并且运行稳定，温度均匀。设备装载系统以固定速度前后移动。我们精密的设计和精湛的加工技术，将使您价格不菲的产品获得最佳的灭菌效果。

This machine is high technology integrative product, which can fully meet requirement of GMP. It is mainly apply to sterilization for suspension and emulsion. During the whole process, the machine runs stably with good seal. The loading system moves backwards and forwards at a regular speed. Our precise design and exquisite processing technology will provide your products with the best sterilizing results.

### 主要技术参数 Main Parameters and Utilities

设计压力 Design Pressure	0.245Mpa	蒸汽源压力 Steam Pressure	0.4-0.6Mpa
工作压力 Working Pressure	0.22Mpa	水源压力 Water Pressure	0.1-0.3Mpa
设计温度 Design Temperature	139℃	压缩空气压力 Compressed Air Pressure	0.5-0.7Mpa
工作温度 Working Temperature	60-134℃	转速（变频调速）（Rotation Speed）	1-20rpm
热均匀度 Heat Equilibrium	≤ ± 0.5℃		

### 结构·性能·特点 Structure & Capability & Characteristics

- 1、严格按照GB150《钢制压力容器》设计制造验收的箱体  
Vessels is designed to the China National Standard -GB150《Steel Pressure Vessel》
- 2、国家专利的门锁装置  
National patent door interlock device.
- 3、国家专利的内充气式密封技术  
National patent sealing technology- closed inflatable seal ring with compressed air.
- 4、控制系统由PLC+触摸屏组成,先进的数据记录,打印,存盘功能  
Control system is integrated by PLC+ HMI, advanced function for recording,printing and storing.
- 5、保温层采用硅酸铝保温  
The heat insulation layer is made by aluminium silicate.
- 6、设备附有标准的16个温度探头的GMP验证口  
The GMP validation port is provided for insertion of 16 temperature sensors for validation.
- 7、独立的温度监控系统  
Independent temperature monitoring system.
- 8、无级变频调速  
Stepless variable-frequency speed control.

### 尺寸规格 Size & Utilities

型号 Model	外型尺寸 Overall Dimensions L × W × H (mm)	内室尺寸 Chamber Size L × W × H(mm)	蒸汽耗量 Steam Consumption (kg/cycle)	冷却水耗量 Tap Water (kg/cycle)	灭菌车 Loading Cart (pcs)	电源 Power (KW)	净重 Net Weight (kg)
ZDG-0.3	1195 × 1220 × 1720	1000 × 600 × 600	25	150	1	5	850
ZDG-0.6	1245 × 1300 × 1880	1050 × 680 × 850	30	200	1	5.5	1400
ZDG-1.2	1695 × 1370 × 1960	1500 × 750 × 1100	40	300	2	7	1850
ZDG-1.5	2015 × 1370 × 1960	1820 × 750 × 1100	80	350	2	7.5	2100
ZDG-2.0	2695 × 1370 × 1960	2500 × 750 × 1100	130	420	3	8	2500
ZDG-2.5	3195 × 1370 × 1960	3000 × 750 × 1100	180	470	3	8.5	3000
ZDG-5.0	3635 × 1800 × 2200	3400 × 1000 × 1500	350	650	4	11	4200

## QXJ系列多功能清洗机

### QXJ Series Multifunctional Washing Sterilizer



多功能清洗机采用PLC、人机界面操作，整个过程全自动控制，操作简单方便。主要适用于药厂、生物研究所及医院等单位对和器具作清洗灭菌之用。

Multifunctional Washer Sterilizer adopts PLC control system and human-machine interface, and full automatic control carried out on the whole process. It is easy to operate.

The machine is suitable for the instruments washing and sterilizing in pharmaceutical factory, biological search institute and animal laboratory etc.

### 结构·性能·特点 Structure & Capability & Characteristics

- 1、可靠稳定的微电脑PLC + 触摸屏控制。先进的数据记录，打印，存盘功能  
Reliable and stable micro-computer automatic control PLC + touch screen control, advanced function for recording, printing and storing, etc.
- 2、气动平移门操作简单、可靠  
Pneumatic translational door, easy to operate, flexible.
- 3、精美的不锈钢装饰外罩  
Elegant stainless steel decorate cover

### 尺寸规格 Size & Utilities

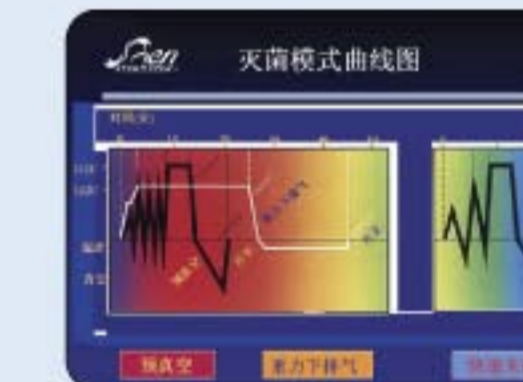
型号 Model	外型尺寸 Overall Dimensions L × W × H (mm)	内室尺寸 Chamber Size L × W × H (mm)	电源 Power (KW)	水耗量 Water Consumption (kg/cycle)
QXJ-0.1	550 × 1250 × 1800	400 × 500 × 500	1.5	300
QXJ-0.2	650 × 1450 × 1800	500 × 600 × 600	1.5	600
QXJ-0.3	750 × 1650 × 1800	600 × 700 × 700	2.0	900
QXJ-0.4	980 × 1900 × 1800	830 × 830 × 600	2.5	1200
QXJ-0.6	980 × 1900 × 1960	830 × 830 × 800	2.5	1800
QXJ-0.8	1050 × 1900 × 1960	900 × 830 × 1000	3.0	2400

## LQ-400 立式压力蒸汽灭菌器

### LQ-400 Vertical Pressure Steam Sterilizer



先进的数据打印功能



灭菌模式曲线图



立式压力蒸汽灭菌器为电加热、自动压力控制型。采用PLC、触摸屏全自动控制，具有自动温度记录及真空干燥等功能。消毒灭菌可靠、使用方便、节电耐用和价廉物美，是医疗卫生、科研等单位对手器械、敷料、器皿、培养基等进行灭菌的理想设备。

Vertical Pressure Steam Sterilizer is electric heating and automatic-control pressure type. It adopts PLC and HMI automatic program control. Automatic temperature recording and printing, vacuum drying are realizable. With advantages of reliable sterilizing result, convenient operation, power saving, low price, high quality, etc. It is an ideal instrument for medical and research units to sterilize operation equipment, dressings, utensils culture medium and so on.

### 主要技术参数 Main Parameters and Utilities

型号 Model	LQ-400A	LQ-400B	LQ-400C
灭菌器容积 Sterilizing Chamber Volume	50L	75L	100L
内室尺寸 Inner Size (mm)	φ 400 × 400 (mm)	φ 400 × 600 (mm)	φ 400 × 800 (mm)
外形尺寸 Overall Size (L × W × H mm)	800 × 530 × 900	800 × 530 × 1100	800 × 530 × 300
工作压力 Working Pressure	0.07-0.22Mpa	0.07-0.22Mpa	0.07-0.22Mpa
工作温度 Working Temperature	115-134℃	115-134℃	115-134℃
热均匀度 Heat Equilibrium	≤ ± 1℃	≤ ± 1℃	≤ ± 1℃
真空度 Vacuum	-0.09Mpa	-0.09Mpa	-0.09Mpa
电源 Power	4.5Kw/AC220V, 50Hz	4.5Kw/AC220V, 50Hz	4.5Kw/AC220V, 50Hz
净重 Net Weight (kg)	150	180	220

**资质与荣誉**

严把质量关，以技术进步为先导，这是江苏万容奉行“让客户满意”宗旨的最基本法。公司先后获得江苏省药监局颁发的《医疗器械生产许可证》和江苏省质量技术监督局颁发的《国家一类压力容器设计许可证》、《国家一、二类压力容器制造许可证》，并通过了ISO9001国际质量体系认证。在技术研发方面，更是成绩斐然。多次受到各级政府主管部门的表彰。



**Credentials & Honor Certificate**

On the base of technical improvement, we try our best to supply the excellent quality goods to satisfy our customer on their requests. We gain the Medical Equipment Produce Licence, Manufacture License of Special Equipment, Design License of Special Equipment and pass the ISO 9001 confirmation. On the aspect of the technology, we get excellent gains and obtain the commendation from the government departments.



## TQ-280 台式压力蒸汽灭菌器 TQ-280 Desk-type Pressure Steam Sterilizer



内室支架托盘  
Inner room support pallet



隔膜真空泵  
Diaphragm vacuum pump

TQ-280台式压力蒸汽器是一种小型、可靠、灭菌设备,其采用PLC、人机界面全自动控制,具有自动温度记录,真空干燥等功能。主要用于医疗卫生机构、科研单位和工厂等企事业单位,针对敷料、药液、玻璃器皿、注射器具、食品等耐压力蒸汽作用的物品进行消毒和灭菌。特别适用医疗手术室等需要快速提供无菌物品的场合进行消毒和灭菌。

TQ-280 desk-type autoclave is a small disinfection equipment with reliable safety system. It adopts PLC and HMI automatic control. It has the function of automatic temperature recording and printing, vacuum drying. It is designed for a disinfection of surgical apparatus, dental apparatus, medical stuff, medical liquid, medical glass, syringe as well as food which are subject to high Pressure and steam. It is suitable for disinfection and sterilization in hospital and clinics, scientific research institutions, especially in operation room that requires quick supply of sterile articles.

### 主要技术参数 Main Parameters and Utilities

型号 Model	TQ-280
灭菌器容积 Sterilizing Chamber Volume	25L
内部尺寸 inner size(mm)	φ 280 × 400
外形尺寸 Overall Size(L × W × H mm)	645 × 560 × 420
工作压力 Working Pressure	0.07-0.22Mpa
工作温度 Working Temperature	115-134℃
热均匀度 Heat Equilibrium	≤ ± 1℃
真空度 Vacuum	-0.09Mpa
电源 Power	1.5Kw/AC220V, 50Hz
净重 Net Weight (kg)	50

## QX 系列储罐清洗机 QX Series Clean Machine



储罐清洗机内部

中小型储罐清洗设备采用PLC、人机界面操作,整个过程全自动控制,操作简单方便。主要适用于医药、日化、食品加工等行业作储罐清洗之用。

Clean Machine adopts PLC control system and human-machine interface, and full automatic control carried out on the whole process. It is easy to operate. The machine is widely used in the pharmaceutical factory, cosmetic and food industries to wash tanks.

### 结构·性能·特点 Structure & Capability & Characteristics

可靠稳定的微电脑PLC + 触摸屏控制  
Reliable and stable micro-computer automatic control PLC + touch screen control.

精美的不锈钢装饰外罩  
Elegant stainless steel decorate cover.

### 尺寸规格 Size & Utilities

型号 Model	外型尺寸 Overall Dimensions L × W × H (mm) 单扉/双扉 Single/Double Door	内室尺寸 Chamber Size L × W × H (mm)	电源 Power (Kw)	水耗量 Water Consumption (kg/cycle)	运行时间 Sterilizing Time (min)	净重 Net Weight (kg)
QX-0.3	900 × 1800 × 1700	1605 × 600 × 950	1.5	150	350	850

## PW系列清洗灭菌柜 PW Series Washing Sterilizer



清洗灭菌柜采用PLC、人机界面操作，整个过程全自动控制。操作简单方便。主要适用于药厂，生物研究所及动物实验室等单位对动物笼子作清洗灭菌之用。

Washing sterilizer adopts PLC control system and human-machine interface, and full automatic control carried out on the whole process. It is easy to operate. The machine is suitable for the drum, cage washing and sterilizing in pharmaceutical factory, biological search institute and animal laboratory etc.

### 结构·性能·特点 Structure & Capability & Characteristics

- 格按照《钢制压力容器》设计制造验收的箱体  
The box is designed, produced and tested strictly according to the 《Steel Pressure Vessel》...
- 国家专利的门锁装置  
National patent door interlock.
- 国家专利的内充气式密封技术  
National patent sealing technology of inner gas:
- 可靠稳定的微电脑PLC+触摸屏控制。先进的数据记录，打印，存盘功能  
Reliable and stable micro-computer automatic control PLC+touch screen control, advanced function for recording, printing and storing, etc.
- 设备附有标准的GMP验证接口  
The GMP confirmation access is fixed on the equipment.

### 尺寸规格 Size & Utilities

型号 Model	外型尺寸 Overall Dimensions L × W × H (mm) 单扉/双扉 Single/Double Door	内室尺寸 Chamber Size L × W × H (mm)	电源 Power (Kw)	水耗量 Water Consumption (kg/cycle)	净重 Net Weight (kg)
PW-2.5	1935 × 1800 × 2200	1700 × 1000 × 1500	6	5200	3200

## YGC系列灭菌传递舱 YGC Series Sterilizing Transferring Cabin



灭菌传递舱采用PLC、人机界面操作，应用先进的完全密封的双门传递技术和密封舱自动灭菌技术，并且内置电加热蒸汽发生装置。整个过程全自动控制，操作简单方便。

### 适用范围：

- 药品、生物制品生产与检验；
- 医疗制剂检验；
- 生物研究所等；

Sterilizing transferring cabin adopts PLC control system and human-machine interface. The built-in electric heating steam generating plant is installed. The door is completely sealed and the whole sterilizing process is full automatic control. It is widely used in the pharmaceutical factory, hospital and biological laboratory, etc.

### 主要技术参数 Main Parameters and Utilities

设计压力 Design Pressure	0.245MPa	真空度 Vacuum	-0.095MPa
工作压力 Working Pressure	0.22MPa	热均匀度 Heat equilibrium	± 1℃
设计温度 Design Temperature	139℃	水源压力 Water Source Pressure	0.1-0.3MPa
工作温度 Working Temperature	134℃	压缩空气压力 Compressed Air Pressure	0.5-0.7MPa

### 尺寸规格 Size & Utilities

型号 Model	外型尺寸 Overall Dimensions L × W × H (mm) 单扉/双扉 Single/Double Door	内室尺寸 Chamber Size L × W × H (mm)	蒸汽耗量 Steam Consumption (kg/cycle)	电源 Power (Kw)	水耗量 Water Consumption (kg/cycle)	净重 Net Weight (kg)
YGC-0.6	740 × 585 × 1600	φ 400 × 510	20	1.5	150	650

## RABS隔离器 RABS(Restricted Access Barrier System)



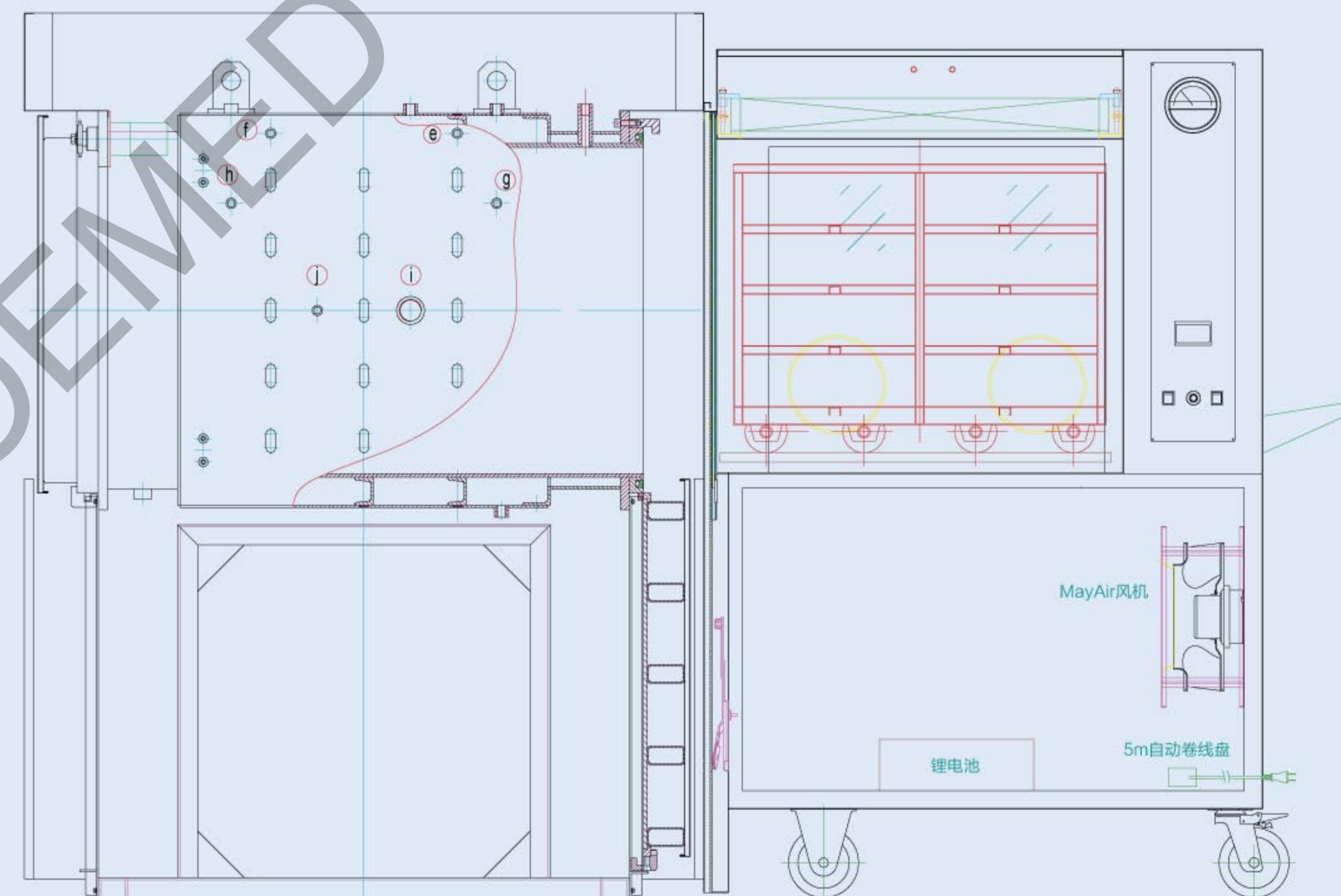
- 增加无菌安全性  
Increase of sterile safety
- 增加产品安全性  
Increase of product safety
- 增加人员安全性  
Increase of labor safety
- 减少了特殊洁净工作服需求  
Reduced need for special clean room clothing
- 降低初期投资和扩建投资  
Reduced need for raw costs and expansion costs
- 降低对洁净室的需求  
Reduction of clean room requirements
- 降低对通风系统需求  
Reduced need for ventilation systems
- 降低对四周生产区的扩建质量要求  
Reduced need for expansion quality of the manufacturing surroundings
- 减少了电力需求  
Reduced need for electric energy

RABS系统由层流系统，围挡系统，手套箱，小门系统和控制系统组成。

主要功能有：单向流保护，系统围挡，手套箱或小门系统，完整性测试孔，压差在线监测。

系统的主要配置和特点有：单向流采用FFU系统，最大限度减少泄露；采用均流膜，最大限度减少部件外露，方便清洁；铝合金或不锈钢支架；PC或钢化玻璃围挡；内置式连接件；卫生型铰链和插销；进口手套箱。

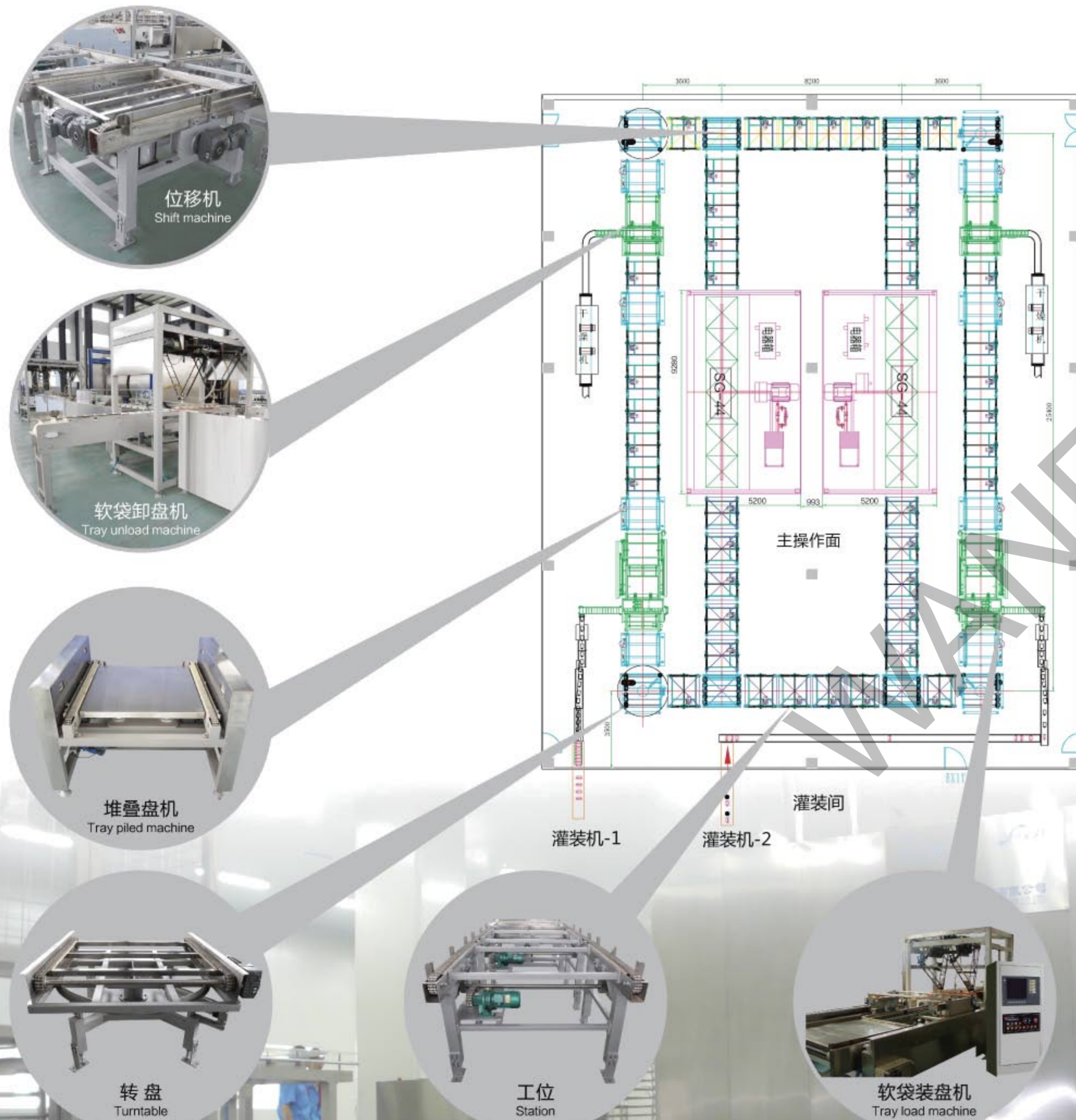
用于无菌工艺、A/B级、不可灭菌、通过手套装置接触产品  
RABS(Restricted Access Barrier System)  
for aseptic processing, A in B, not sterilisable  
access to product via glove ports



- 1、2010版GMP 第四章隔离操作技术，“第十四条 高污染风险的操作宜在隔离操作器中完成。隔离操作器及其所处环境的设计，应当能够保证相应区域空气的质量达到设定标准。传输装置可设计成单门或双门，也可是同灭菌设备相连的全密封系统；
- 2、物品进出隔离操作器应当特别注意防止污染；
- 3、隔离操作器所处环境取决于其设计及应用，无菌生产的隔离操作器所处的环境至少应为D级洁净区；

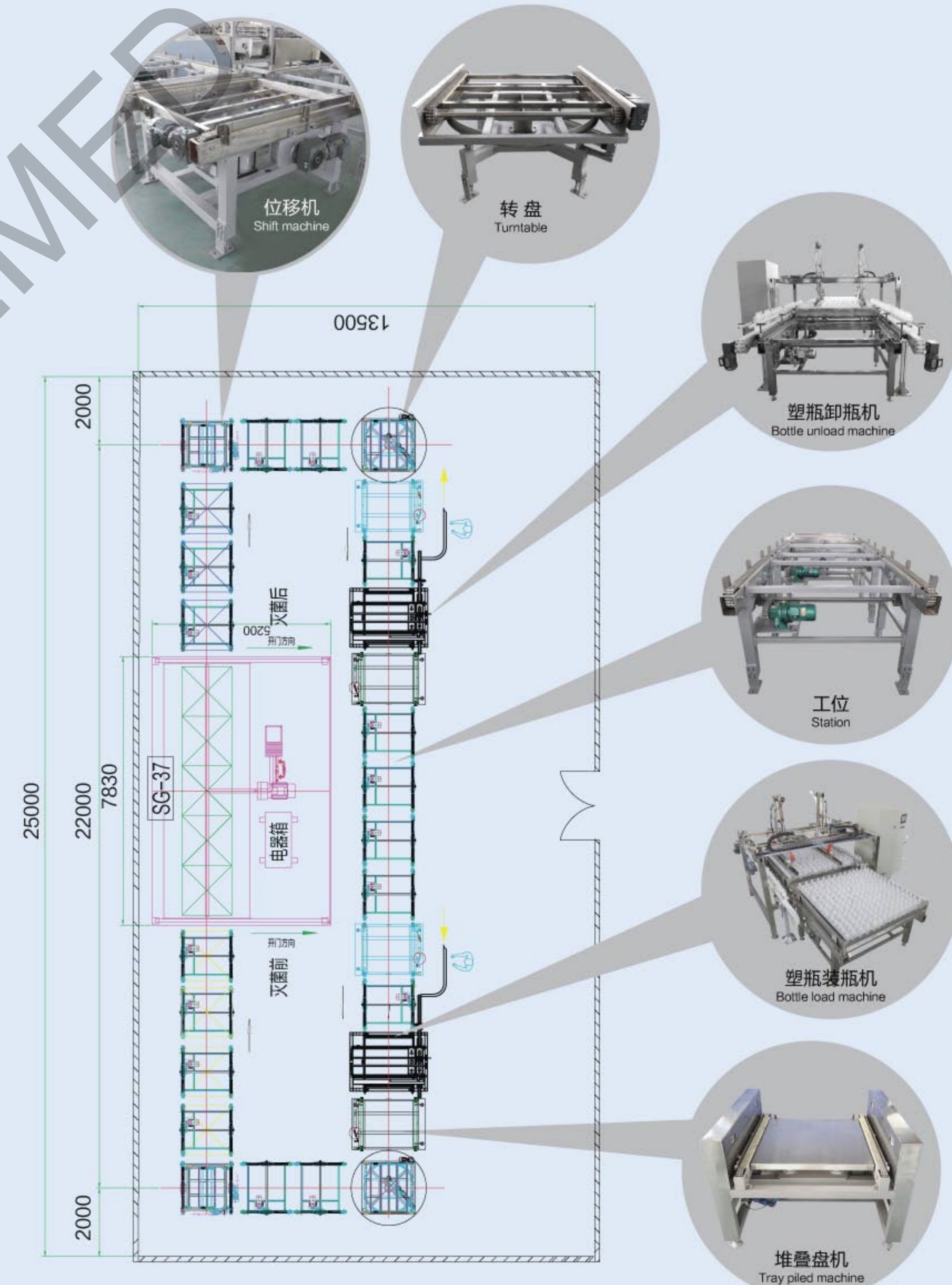
软袋大输液自动物流系统

LVP of soft bags automatic logistics system



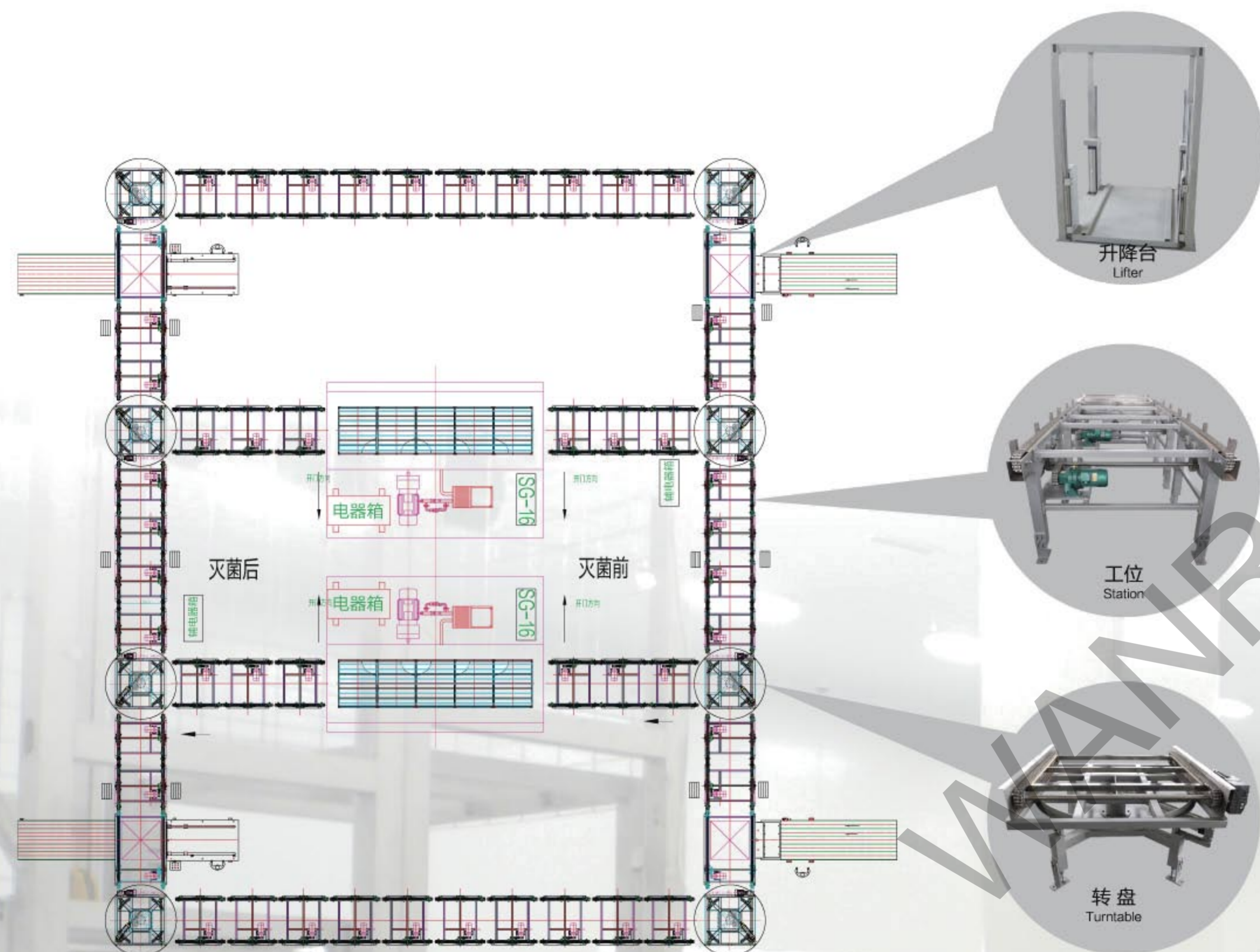
塑瓶大输液自动物流系统

LVP of plastic bottle automatic logistics system

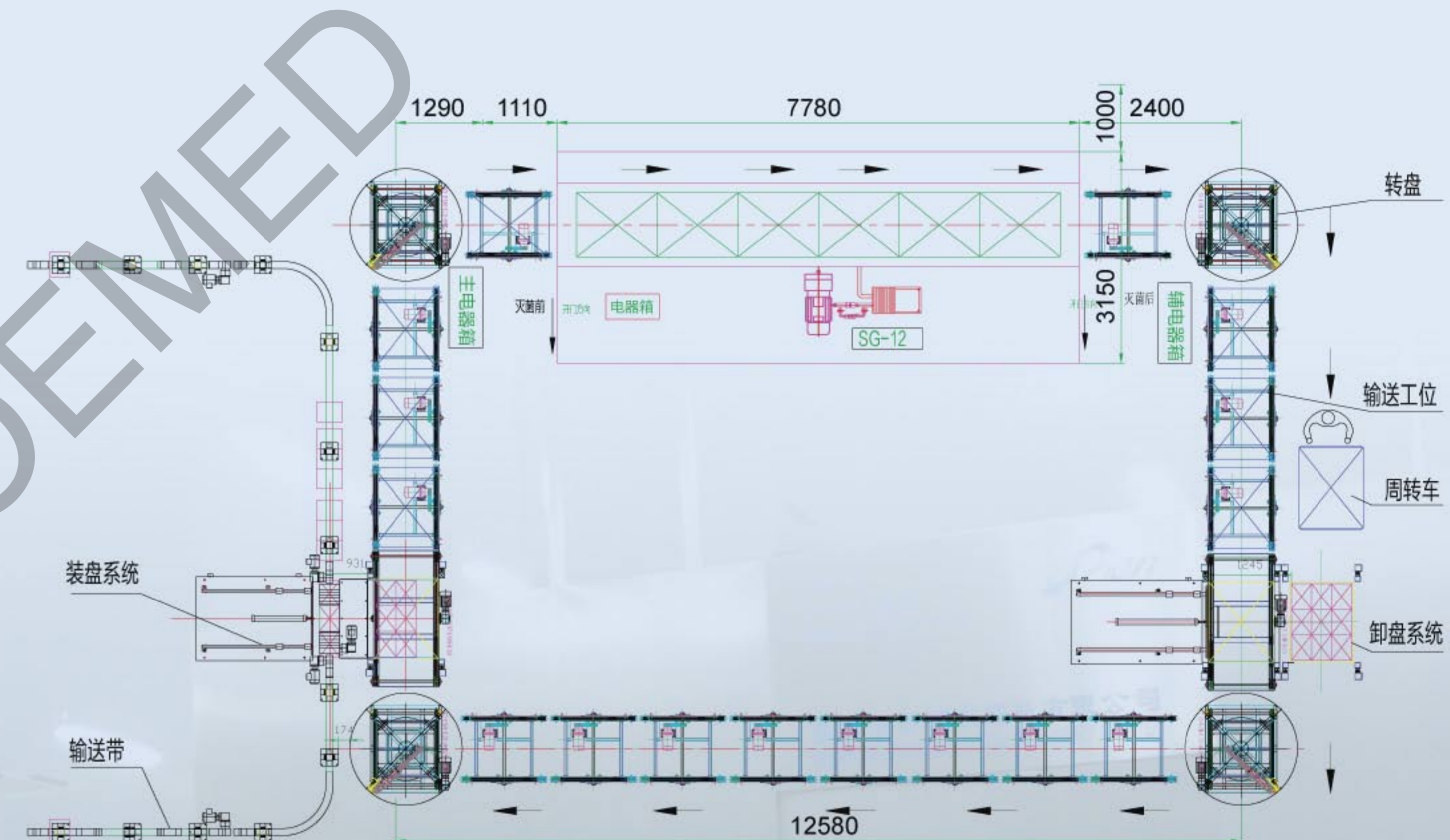




玻瓶大输液自动物流系统  
LVP of glass bottle automatic logistics system



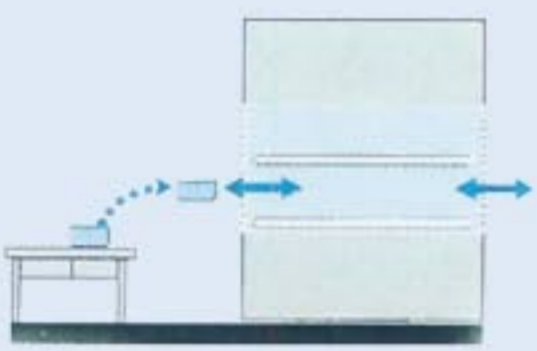
安瓿瓶物流系统  
LVP of ampoule automatic logistics system



工程实例

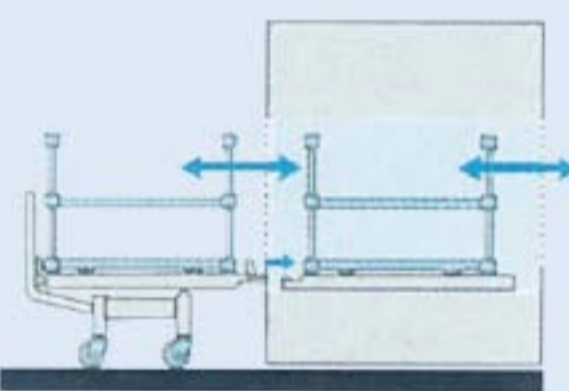


## 灭菌物的搬运方式 The Convey of the Sterilizing Articles



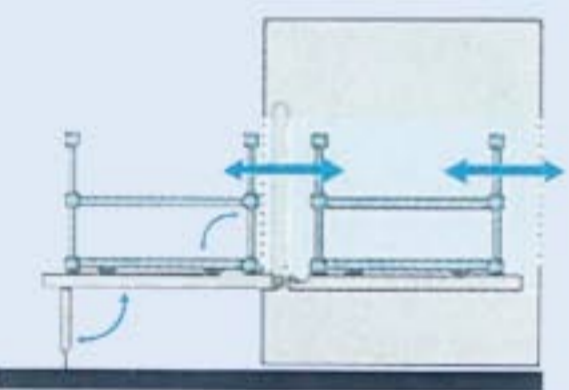
### A 搁板方式 / Shelves

灭菌室有可装卸的搁板，被灭菌物装入筐内放入搁板上  
There are shelves in sterilizing chamber that can be loaded and unloaded. Articles to be sterilized are first put into the basket then on the shelves.



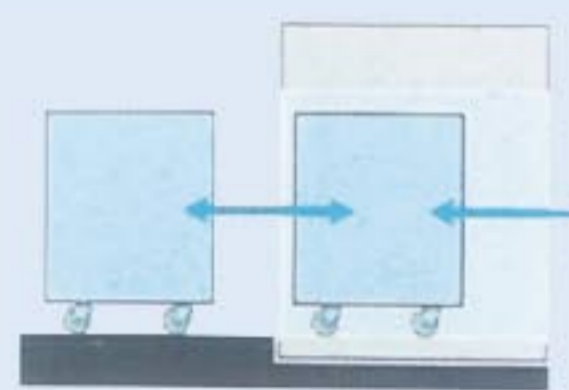
### B 搬运车及框架车方式 / Cart for carrying basket

运送载放被灭菌物的框架车出入灭菌室时使用搬运车  
Cart is used to carry basket in and out of sterilizing chamber.



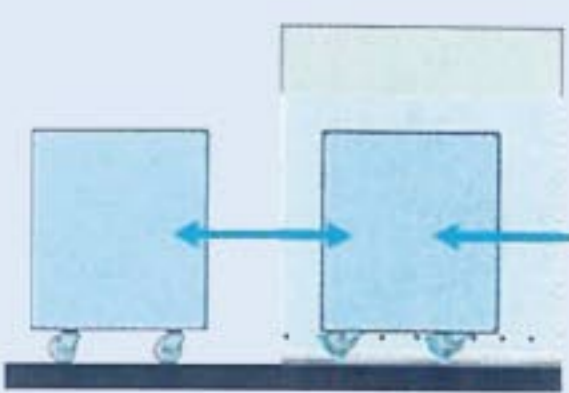
### C 折叠导轨及框架车方式 / Folding slideway and cart

框架车载放被灭菌物进出灭菌室，用于将框架拉出灭菌室导轨是折叠导轨。  
Cart is used to carry articles in and out of sterilizing chamber. The slideway which can be folded is used to pull out the cart.



### D 地面装填手推车方式 / Push cart for ground filling

通过装置的安装，作业室地板同装置灭菌室外地面同高时，被灭菌物装在地面手推车中收纳入灭菌室或自灭菌室取出  
When the bottom of sterilizer is on the same level with floor. Pushcart is used to move in or move out articles indicator



### E 半地面装填手推车方式 / Push cart for half ground filling

根据装置的安装方法，作业室地板同装置灭菌室底面有一定落差时，被灭菌  
The bottom of sterilizer is not on the same level with floor indicator.

## 灭菌柜的GMP验证 GMP Confirmation



温度传感器 / Temperature sensor

压力传感器 / Pressure sensor

转速计算器 / Tachometer

相对湿度传感器 / Relative dampness sensor

## 验证过程 Qualification process

- Step1 设计确认 / Design qualification (DQ)
- Step2 安装确认 / Installation qualification (IQ)
- Step3 运行确认 / Operational qualification (OQ)
- Step4 挑战性试验 / Challenges Test (PQ)



## 湿热灭菌的参数

### Wet Heat Sterilization Parameter

**D值** D值即微生物的耐热参数，是指一定温度下，将微生物杀灭90%（即使之下下降一个对数单位）所需的时间，以分钟表示。

**Z值** Z值即灭菌温度系数，是指使某一生物的D值下降一个对数单位。灭菌温度应升高的值（℃）通常取10℃。

**Ft值** Ft值为灭菌程序所赋予待灭菌品在温度T下的灭菌时间，以分钟表示。

**F0值** 即标准灭菌时间，是灭菌过程中赋予待灭菌品在121℃下的等效灭菌时间。即T=121℃为标准灭菌时间，以分钟表示。

**灭菌率L值** L值是指在某温度下灭菌一分钟所相应的标准灭菌时间，即F0和Ft的比值（ $L=F0/Ft$ ）。

**灭菌保证值SAL** 灭菌保证值SAL为灭菌产品经灭菌后微生物残存概率的负对数值，表示物品被灭菌后的无菌状态。按国际标准，规定湿热灭菌法的灭菌保证值不低于6，即灭菌后为生活淬火的概率不得大于百分之一。

**D value:** It is the anti-heating parameter of microorganism. That means under a certain temperature, the time is needed to kill 90% microorganism (reduce one logarithm unit) which is expressed as minute. D value is bigger, temperature to kill the microbion will be higher. Different microorganism under different conditions, have different D values.

**Z value:** It is the sterilizing temperature coefficient. That means when the D value of the microorganism reduces one logarithm unit, the sterilizing temperature should rise 10℃ as usual.

**FT value:** It is the sterilizing time of the sterilizing articles which is specified by the sterilizing program, expressed as minute.

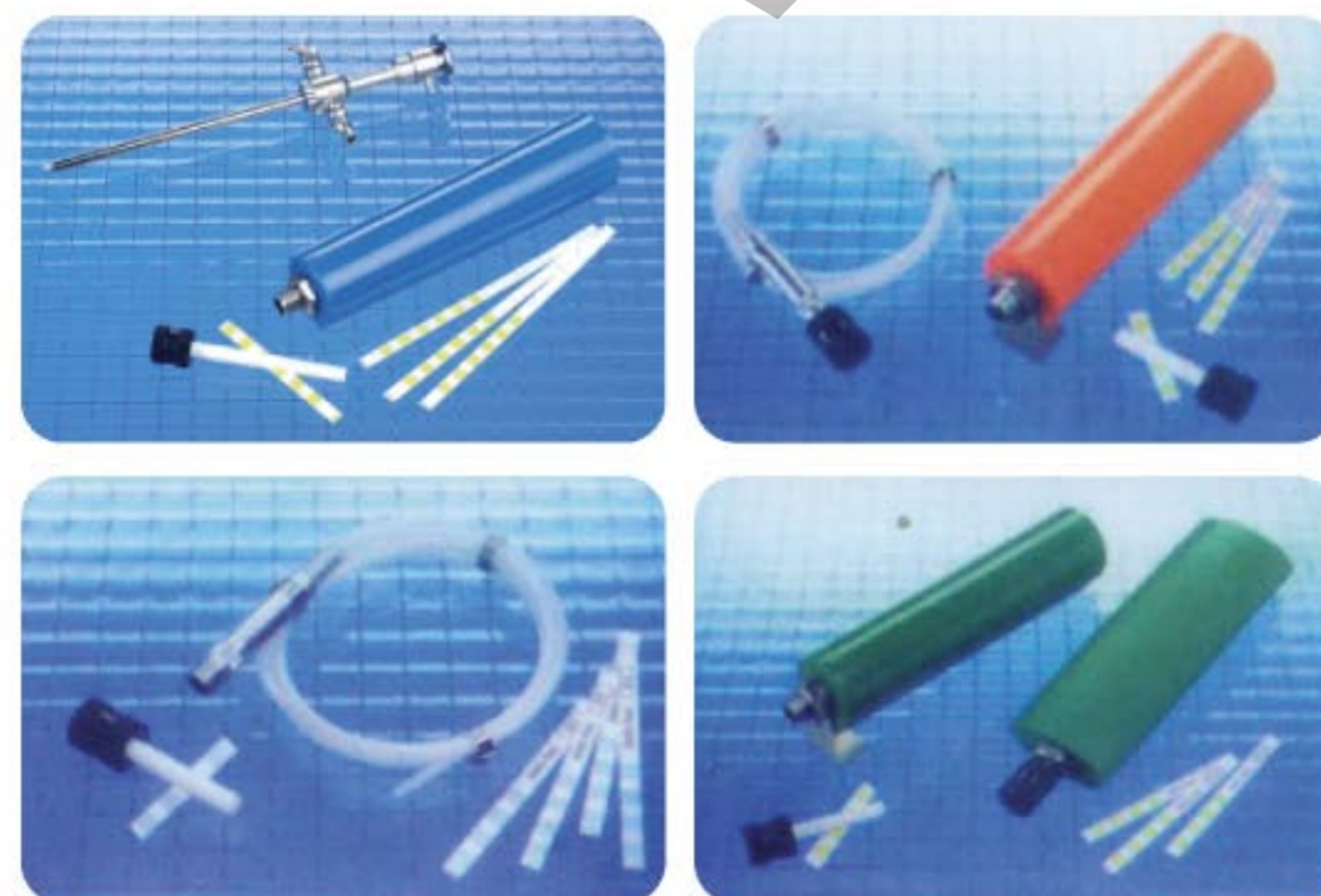
**F0 value:** It is the standard sterilizing time which is equivalent time under 121℃ of sterilizing articles specified by the sterilizing program. Means the Ft value when T=121℃, Z=10℃. 121℃ is the standard condition, so the F0 is the standard sterilizing time, expressed as minute.

**Expressed as minute. Sterilizing rate L:** It is the 1 min corresponding standard sterilizing time under some sterilizing temperature. Means it is the ratio of F0 and Ft. ( $L=F0/Ft$ ).

**Sterilizing assurance value SAL:** It is the suffer logarithm value of the microbion remain probability after sterilizing. It means the asepsis condition after sterilizing. According to the international standard, the sterilizing assurance value of the wet heat sterilizing way should be not lower than 6, means the microbion remain probability won't be more than 1/1000000.

## PCD灭菌过程批量检测系统 Process Challenge Device

PCD(灭菌过程挑战装置Process Challenge Device): 对灭菌过程有一定抵抗力并用来评价此灭菌过程效果的装置。其内部可放置化学或生物指示物，用于灭菌物品的批量监测、B-D测试、腔体器材的灭菌监测等。关于PCD，ISO标准、美国标准和欧洲标准已有相关的规定。根据灭菌过程验证装置的特点，目前有敷料型PCD和管腔型PCD两种。



## 灭菌效果的B.D测试

### B.D Testing for Sterilizing Effect

追求世界标准的防感染水平，运用Bowie-Dick测试。

Use Bowie-Dick test to meet the international anti-infection standard.

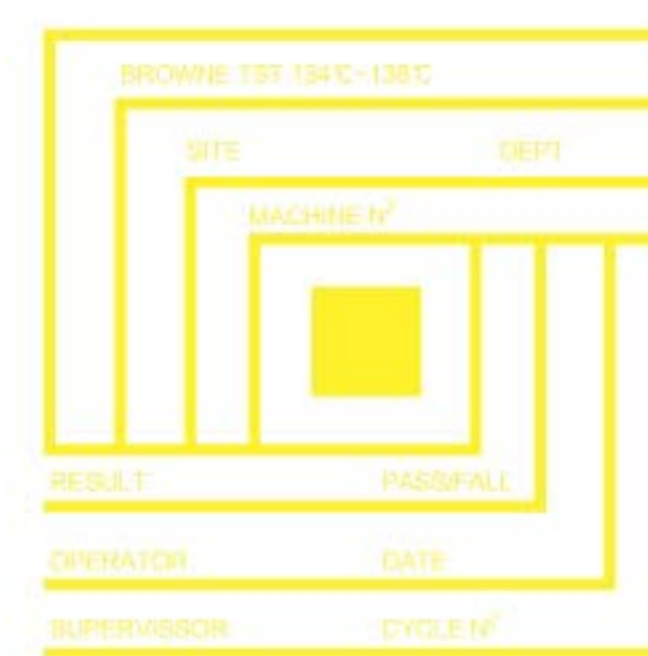
配备Bowie-Dick测试程序，以确保高水平的灭菌精度。

Fix the Bowie-Dick testing program to ensure high sterilizing precision.

### 所谓Bowie-Dick测试程序

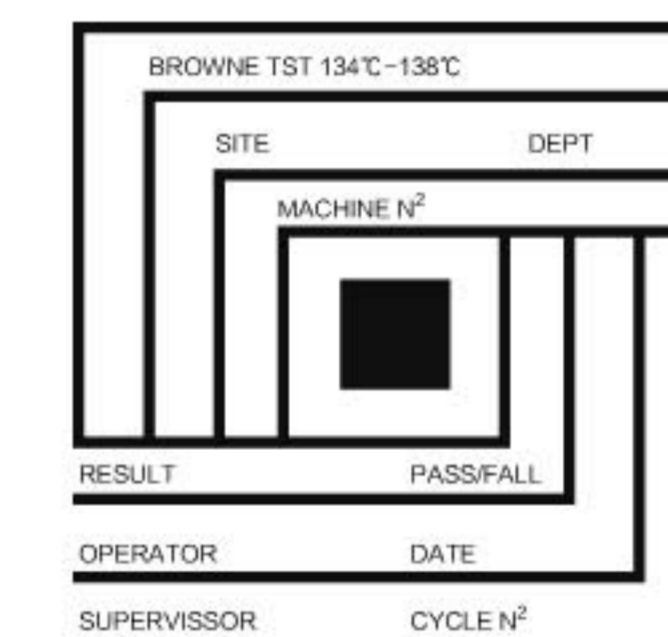
它是英国爱丁堡皇家医院微生物学院J.H.Bowie和J.Dick开发的试验方法。用于测试由高压真空型灭菌装置对通气性物体进行灭菌处理的效果。灭菌器械协会(AAMI)也将其用作确认灭菌装置运行情况的标准方法。该测试是将测试卡放在毛巾包的中部作为测试包，将其放置在灭菌装置内的规定位置，进行134℃/3.5分的灭菌循环后，取出测试包，根据测试卡的颜色变化判断灭菌装置的性能。当发生真空泵故障、灭菌循环、控制不完全、灭菌室漏气等情况时，测试卡的颜色不均匀，从而可以简单地发现灭菌装置的异常。

It is developed by J.H.Bowie and J. Dick from microbion college of Edinburgh Royal Hospital UK which is used for testing the sterilizing effects of ventilated articles which is sterilized by the high pressure vacuum sterilizing equipment. AAMI is also used it as the standard to confirm the condition of the sterilizer. First, use the towel to pack the testing cards as a testing parcel and put it to the specified place in the chamber. After the sterilizing circle of 134℃/3.5min, take the parcel out and judge the performance of the sterilizing equipment through the color of the testing card. If the vacuum pump broken, sterilizing circle, control incompletely, sterilizing chamber leak, the color of the testing card will not be equal. Then we can recognize the abnormality of the sterilizing equipment easily.

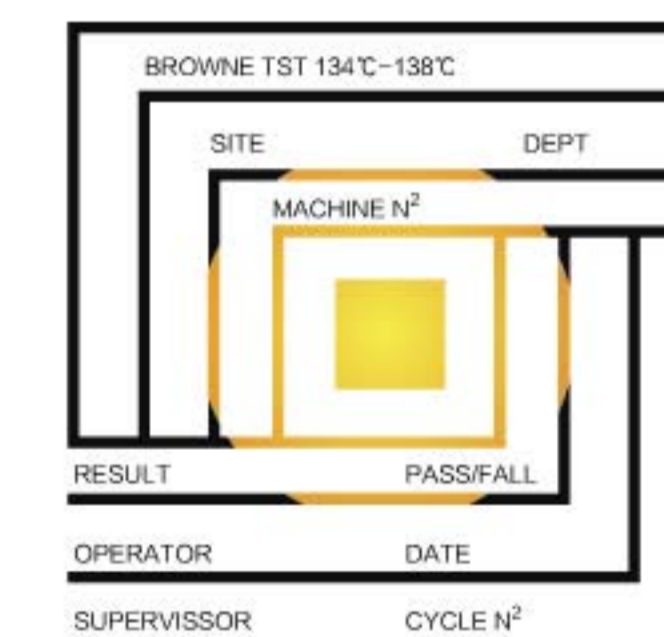


使用前

\*以上测试卡为英国布朗公司生产



正常



异常

Bowie-Dick 测试是判断高压蒸汽灭菌装置运行是否正常、是否能进行彻底灭菌的试验方法，在欧美已广泛普及。万容产品以世界标准的灭菌装置为目标，在灭菌设备上装配了Bowie-Dick 测试程序，迅速实现了以了解所期待的国际规格的目标，进一步提高了防感染水平。

Bowie-dick test which widely used in Europe and America is used to confirm that whether the operation of the autoclave steam sterilizing equipment is normal and whether it can sterilize completely. In order to meet the international equipment standard, Wanrooe fix the B.D test program to improve the anti-infection standard.

**万容产品进口部件配置**

**Imported components configuration of wanrooe products**

为保证每一台万容灭菌设备的安全可靠，运行稳定，低耗高效，我们精心选用以下世界知名品牌配件。使万容产品具备国际品质。

To make sure every Wanrooe sterilizer's safety and reliability, stable running, low investment and high profit, we carefully select the following components that are world-famous, which can make Wanrooe possess international quality.



**PALL**



**STERLING**



**MITSUBISHI**



**GRUNDFOS**



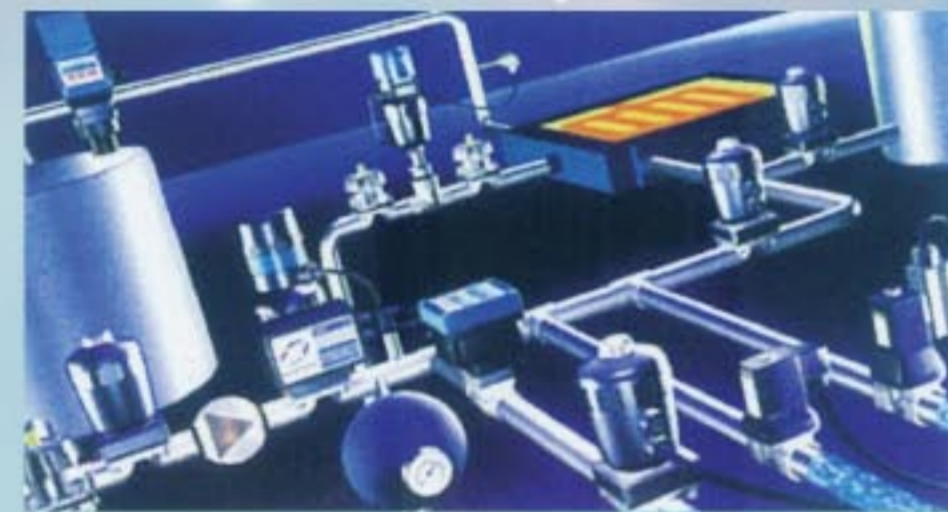
**FINE AUTOMACION**



**GEMU**



**Alfa Laval**



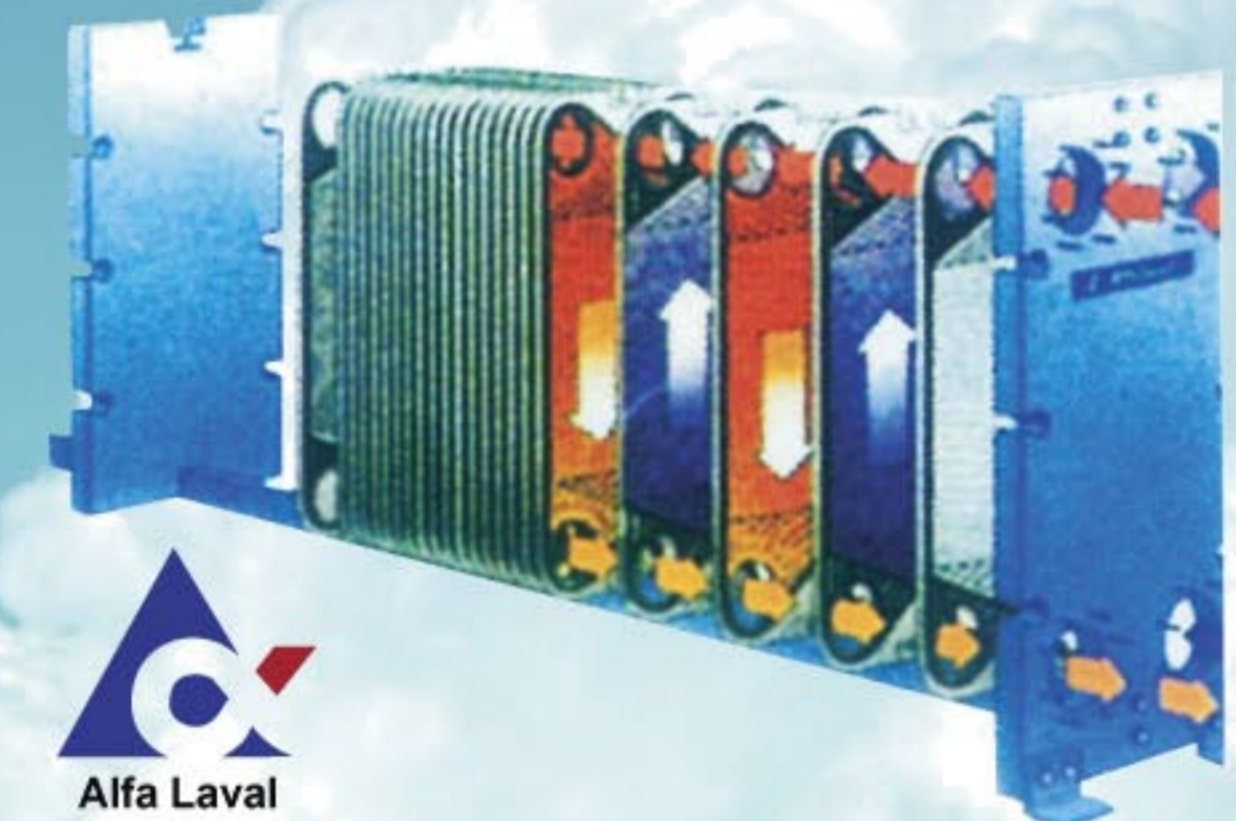
**bürkert**



**ASCO JOUCOMATIC**



**JUMO**



**Alfa Laval**



**Danfoss**



**spirax sarco**



**SIEMENS**



**FESTO**



**Spraying Systems Co.**



**YOKOGAWA/OHKURA**

**万容灭菌柜专业附件**

**Special attachments of Warooe products**



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| 21-22/ | AM系列安瓿检漏灭菌柜      | AM Series Ampoule Leak Sterilizer                      |
| 23-24/ | CG系列纯蒸汽灭菌柜       | CG Series Pure Steam Sterilizer                        |
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YG系列脉动真空灭菌柜  
YG Series Pulsating Vacuum Sterilizer



人性化的触摸屏选择界面  
Touch-screen Operation



高精度压力控制元件  
High Precision Pressure Controller



先进的数据打印功能  
Printing Data And Curve



国家专利的门锁紧机构  
National Patent Gate Lock Structure

本系列灭菌柜是我国新一代适合于衣物、敷料、金属器械、培养基及玻璃器皿等进行灭菌干燥处理的设备。采用PLC、人机界面全自动控制，具有自动温度记录，真空干燥等功能。广泛用于医院供应室和手术室、制药厂、实验室、科研等单位对物品作消毒灭菌之用。

Pulsating Vacuum Sterilizer with the features of PLC and HMI automatic program control, automatic temperature recording and printing, vacuum drying, etc. It is suitable for hospitals, pharmaceutical factories, scientific research institutes and other units to sterilize and dry clothing, dressings, metal instruments, culture medium, etc.

主要技术参数 Main Parameters and Utilities

设计压力 Design Pressure	0.245Mpa	真空度 Vacuum	-0.095Mpa
工作压力 Working Pressure	0.22Mpa	蒸汽源压力 Steam Pressure	0.4-0.6Mpa
设计温度 Design Temperature	139℃	水源压力 Tap Water Pressure	0.2-0.3Mpa
工作温度 Working Temperature	134℃	压缩空气压力 Compressed Air Pressure	0.6-0.8Mpa
热均匀度 Heat equilibrium	≤ ± 1℃		

结构·性能·特点 Structure & Capability & Characteristics

- 1、严格按照GB150《钢制压力容器》设计制造验收的箱体  
Vessels is designed to the China National Standard -GB150《Steel Pressure Vessel》
- 2、国家专利的门锁装置  
National patent door interlock device.
- 3、国家专利的内充气式密封技术  
National patent sealing technology- closed inflatable seal ring with compressed air.
- 4、控制系统由PLC+触摸屏组成,先进的数据记录,打印,存盘功能  
Control system is integrated by PLC+ HMI, advanced function for recording,printing and storing.
- 5、设备附有标准的16个温度探头的GMP验证口  
The GMP validation port is provided for insertion of 16 temperature sensors for validation.
- 6、独立的温度监控系统  
Independent temperature monitoring system
- 7、真空泵前装有冷却蒸汽冷凝装置  
The steam condenser is fitted in the exhaust/vacuum line to condense the steam before entering inside the vacuum pump.

尺寸规格 Size & Utilities

Model 型号	外型尺寸 Overall Size L×W×H (mm)	内室尺寸 Chamber Size L×W×H (mm)	蒸汽耗量 Steam Consumption (kg/cycle)	电源 Power (Kw)	水耗量 Tap Water Consumption (kg/cycle)	净重 Net Weight (kg)
YG-0.1	825 × 1080 × 1600	630 × 400 × 480	15	1.0	80	380
YG-0.25	895 × 1220 × 1720	700 × 600 × 600	20	1.5	150	650
YG-0.36	1195 × 1220 × 1720	1000 × 600 × 600	25	1.5	150	760
YG-0.6	1245 × 1300 × 1880	1050 × 680 × 850	30	2.0	200	1100
YG-0.8	1595 × 1300 × 1880	1400 × 680 × 850	35	3.0	250	1300
YG-1.2	1695 × 1370 × 1960	1500 × 750 × 1100	40	3.0	300	1900
YG-2.5	3195 × 1370 × 1960	3000 × 750 × 1100	75	4.5	450	2800
YG-5.0	3635 × 1800 × 2200	3400 × 1000 × 1500	150	7.5	600	4500



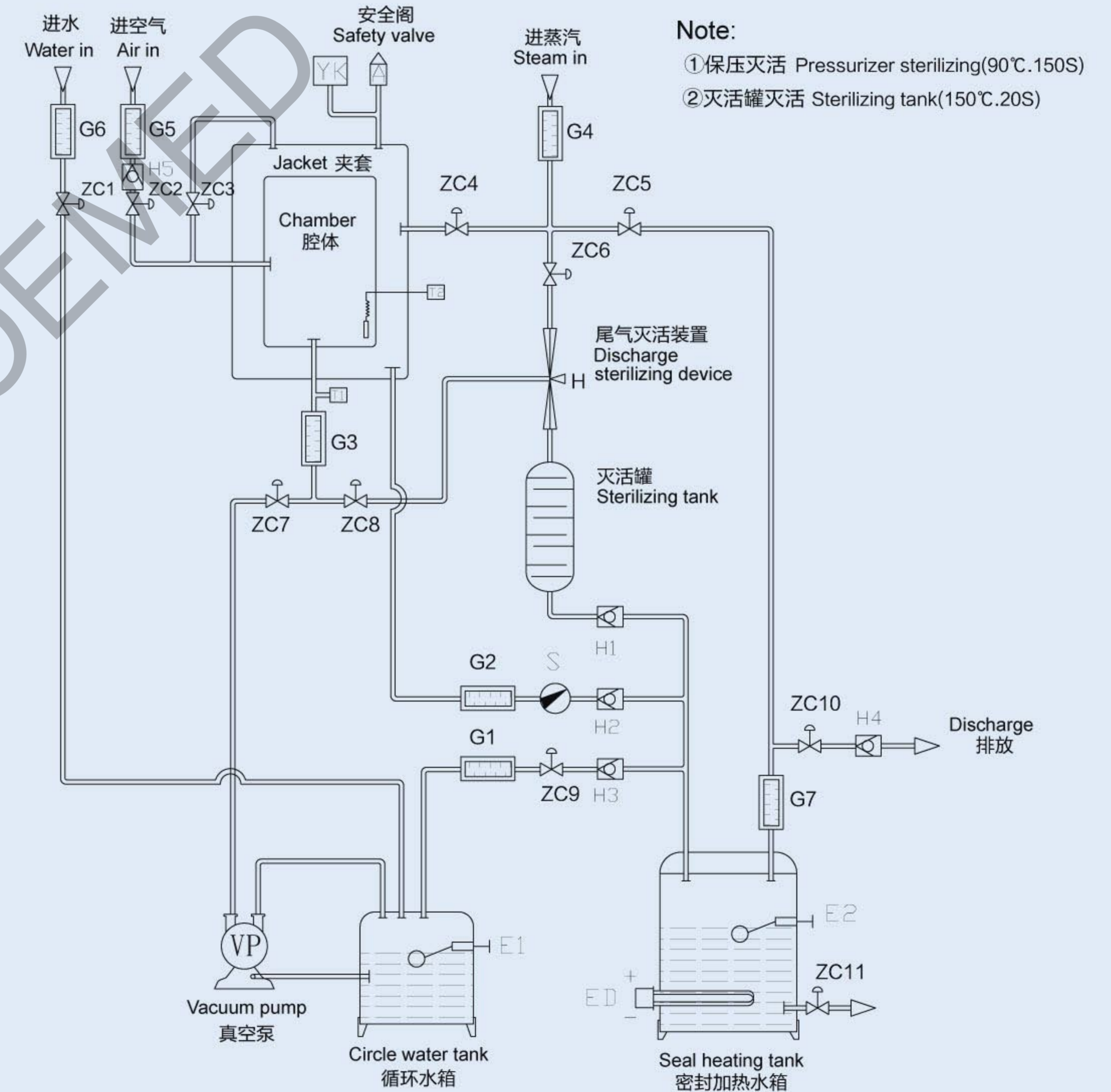
1、上下平移门  
开门方式 This sterilizer is lift gate type  
The way of opening the door: Sliding up-and-down.

2、地坑式升降门  
开门方式 This sterilizer is pit type  
The way of opening the door: The door will first travel upwards a bit, and then opened after turning handle.



### PIII & PIV 实验室灭菌柜工作原理

The working principle diagram of sterilizer for PIII&PIV lab



SG系列水浴式灭菌柜 SG Series Super Water Sterilizer



液压升降平台 Hydraulic Lifting Platform



转盘 轨道 Tumble/Orbit



该系列水浴式灭菌柜利用过热循环水作为灭菌加热载体，对物品进行水淋式灭菌操作。在整个工作过程中，过热水运行于一个相对封闭的循环系统。该设备具有热效率高、温度均匀性、温度调控范围宽等一系列优点。并且有效防止工作过程中的二次污染，辅以反压保护措施。该设备能广泛应用于制药行业对玻璃瓶装、安瓿瓶装、塑料瓶装、塑料软袋装等液体进行高、低温灭菌操作，同时也适用于食品行业对各种密封包装、饮料、罐头食品进行高、低温灭菌操作。

本机采用计算机进行全过程监控，各种参数能进行修改，实时记录及打印输出，极大地提高了整机的可靠性和智能化，使其能更好地适合于现代企业工业化生产的需要。

This series adopts cyclical water as sterilization heating carrier and carry out water-pouring sterilizing operation for articles. During the whole working course, superheated water operates in a relatively sealing cyclical system, which has series of advantages, high heat efficiency, good temperature evenness, stable temperature adjusting range, etc. Besides, this equipment also effectively prevents second pollution during working with anti-pressure protection device. It can be applied widely to high-and-low temperature sterilizing operation on liquid in glass bottles, Ampoule bottles, plastic bottles, plastic packs, etc. in pharmaceutics. Meanwhile, it is also suitable for foodstuff industry to sterilize all kinds of sealing package, drinks, cans.



快速均匀的三面环抱式喷淋系统



用于监控的上位机



独立存储的数据U盘



独立的温度监控系统

主要技术参数 Main Parameters and Utilities

设计压力 Design Pressure	0.245Mpa	蒸汽源压力 Steam Pressure	0.4-0.6Mpa
工作压力 Working Pressure	0.22Mpa	水源压力 Tap Water Pressure	0.2-0.3Mpa
设计温度 Design Temperature	139℃	压缩空气压力 Compressed Air Pressure	0.6-0.8Mpa
工作温度 Working Temperature	60-134℃	纯水 Pure Water Pressure	0.2-0.3Mpa
热均匀度 Heat Equilibrium	≤ ± 1℃		

尺寸规格 Size & Utilities

Specification 技术参数 Model 型号	外型尺寸 Overall Size L × W × H (mm)	内室尺寸 Chamber Size L × W × H (mm)	蒸汽耗量 Steam Consumption (kg/cycle)	纯水耗量 Pure Water (kg/cycle)	压缩空气耗量 Compressed Air (kg/cycle)	冷却水耗量 Cooling Water (kg/cycle)	灭菌车 Loading Cart (pcs)	电源 Power (Kw)	净重 Net Weight (kg)
SG-1.2	1820 × 2500 × 2000	1500 × 750 × 1100	80	100	2.0	2000	2	5	2150
SG-2.5	3320 × 2500 × 2000	3000 × 750 × 1100	130	200	4.0	4000	4	5	3100
SG-5	3780 × 3150 × 2250	3400 × 1000 × 1500	250	450	10.0	8500	4	8	5500
SG-13	4580 × 4000 × 2820	φ 2000 × 4200	580	1000	25.0	9000	4	15	8500
SG-26	8580 × 4000 × 2820	φ 2000 × 8200	1200	1500	40.0	16000	8	25	18000
SG-32	10580 × 4000 × 2820	φ 2000 × 10200	1400	2000	45.0	20000	10	30	21000
SG-40	8740 × 5200 × 3220	φ 2500 × 8360	1800	2500	55.0	24000	16	45	24500
SG-62	12820 × 5200 × 3220	φ 2500 × 12440	2800	4000	90.0	40000	24	60	31000

注：以上外形尺寸、内室尺寸和灭菌车数量均指玻璃瓶灭菌柜，软袋灭菌柜尺寸略有不同。  
Note: The overall size, chamber size, and the quantity of loading cart are for glass bottle. And there is a bit difference for soft bag.

装载量 Loading capacity

型号 Model	玻璃瓶 Glass bottle			塑瓶 Plastic bottle			软袋 Soft bag		
	100ml	250ml	500ml	100ml	250ml	500ml	100ml	250ml	500ml
SG-1.2	2016	990	544	1400	768	480	520	416	312
SG-2.5	4032	1980	1088	2800	1536	960	1040	832	624
SG-5	7868	3960	2160	5568	3260	2112	2160	1800	1440
SG-13	14400	7840	4536	10584	6120	4200	4320	3600	2160
SG-26	28800	15680	9072	21168	12240	8400	8640	7200	4320
SG-32	36000	19600	11340	26460	15300	10500	10800	9000	5400
SG-40	44800	24192	13248	32928	19584	12000	13440	11200	8960
SG-62	67200	36288	19872	49392	29376	18000	20160	16800	13440

注：以上装载量仅供参考，实际装载量会因装载方式、瓶子规格尺寸而有所不同。  
Note: The loading above is just for reference, the actual loading will be different because of the loading method and bottle sizes.