

环氧乙烷EO灭菌 Ethylene oxide sterilization

100%灭菌率 100% sterilization rate

专注EO灭菌器生产制作
Focus on EO sterilizer production

专业工业制作平台 Professional industrial production platform

高效率 最大可一次完成20立方的物品灭菌 (HTAJ-20.0)
智能化 操作完成, 灭菌全过程记录打印
安全高 全方位传感器警报, 自动化监测
软件强 人机界面, 智能化操作

High efficiency: Maximum sterilization capacity is 20 cubic meters at one time (HTAJ-20.0)
Intelligent system: Once one-key operation is finished, record and print the whole sterilization process
High safety: all-round sensor alarm, automatic detection
Strong software: human-machine interface, intelligent operation
Complete standard sterilization within 8 hours (6CBM)
Complete the resolution of disposable medical masks within 12 hours (resolution bag packaging)

最快8小时完成灭菌标准 (6立方)
最快12小时解析完成一次性医用口罩(解析袋包装)



我们生产的设备适应于
一次性医用口罩、外科口罩、Kn95、N95口罩
防护服/医用器械/实验器械/电子器械/化学器械等多领域

The equipment is suitable for
Disposable medical masks, surgical masks, KN95 masks, N95 masks
Protective clothing / medical equipment / laboratory equipment / electronic equipment / chemical equipment and other fields

800,000 pcs: 20 CBM sterilizer can sterilize up to 800,000 medical masks per day
Safety: It has mandatory residual gas removal function and alarm function
100%: The sterilization rate reaches 100%, safe and effective, chemical sterilization



技术参数:

Technical Parameters

产品型号 Product Model	容 积 Volume	额定功率 Rated Power	内胆尺寸 mm Liner Size	外箱尺寸 mm Outside Size	消毒模式 Disinfection Mode	重 量 Weight
HTAJ-2.0	2.0m ³	9kw	1500*1000*1400	2400*1300*1800	低温 Low temperature	1500kg
HTAJ-3.0	3.0m ³	12kw	1700*1200*1500	2600*1500*1900	低温 Low temperature	2000kg
HTAJ-4.0	4.0m ³	14kw	2500*1200*1500	3400*1500*1900	低温 Low temperature	2500kg
HTAJ-5.0	5.0m ³	16kw	2800*1200*1500	3700*1500*1900	低温 Low temperature	2800kg
HTAJ-6.0	6.0m ³	18kw	3000*1200*1700	3950*1570*2190	低温 Low temperature	3200kg
HTAJ-7.0	7.0m ³	19kw	3000*1400*1700	3950*1770*2190	低温 Low temperature	3500kg
HTAJ-8.0	8.0m ³	22kw	3400*1400*1700	4350*1770*2190	低温 Low temperature	3800kg
HTAJ-9.0	9.0m ³	23kw	3800*1400*1700	4750*1770*2190	低温 Low temperature	4200kg
HTAJ-10	10m ³	24kw	4000*1500*1800	4950*1870*2350	低温 Low temperature	4600kg
HTAJ-12	12m ³	25kw	4500*1500*1800	5450*1870*2350	低温 Low temperature	5000kg
HTAJ-15	15m ³	30kw	5800*1500*1800	6750*1870*2350	低温 Low temperature	6500kg
HTAJ-20	20m ³	35kw	6000*1750*1950	6950*2120*2450	低温 Low temperature	8000kg



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HTAJ系列 | 设备亮点 HTAJ series | equipment highlights

安久的环氧乙烷灭菌器为智能一体机

Angel's ethylene oxide sterilizer is an intelligent all-in-one machine

智能化操作主要分三个阶段

Intelligent operation is mainly divided into three stages

- ① 预处理阶段（灭菌前达到最适环境）
1. Pretreatment stage (reach the optimal environment before sterilization)
- ② 灭菌阶段（时间可自由调节）
2. Sterilization stage (time can be adjusted freely)
- ③ 强制排除环氧乙烷气体残留阶段（可自由调节次数）
3. The stage of forcibly removing residual ethylene oxide gas (the frequency can be adjusted freely)

以上阶段均在柜体内完成，操作方便设备占用空间小，安装简便。

每台设备只需提供大于设备两倍尺寸的独立空间即可

安装只需连接入水、排水、电源及空压机即可操作使用

The above stages are all completed in the cabinet, the operation is convenient, covering small space, and the installation is simple.

It is enough to provide each equipment with independent space twice as large as the equipment.

It can be used after connecting the water, drainage and power supply



环氧乙烷灭菌器-医用口罩防护服灭菌解决方案

Ethylene oxide sterilizer- sterilization solution for medical mask and protective clothing

环氧乙烷灭菌原理：Ethylene oxide sterilization principle:

环氧乙烷分子能与细菌细胞内新陈代谢必需的基因蛋白质上羧基(-COOH)、氨基(-NH₂)、巯基(-SH)和羟基(-OH)起反应，产生烷基化反应，代替上述各基上不稳定的氢原子，而构成一个带有羟乙基(-CH₂CH₂OH)的化合物，由于这个化合物破坏了微生物重要代谢反应中必需的反应基，影响了细菌酶的作用，使微生物死亡。

环氧乙烷灭菌是一种广谱低温灭菌方式，使用环氧乙烷气体对密封于灭菌室内的物品进行低温熏蒸达到灭菌，可在常温下杀灭各种微生物，包括芽孢、结核杆菌、病毒、真菌等；它穿透力强，能穿透微孔棉毛制品、塑料薄膜纸盒纸箱等包装物品，灭菌可靠，便于长期储存，灭菌后物品放于通风良好的室内，挥发后达到安全使用。

The ethylene oxide molecule can react with the carboxyl (-COOH), amino (-NH₂), sulfhydryl (-SH), and hydroxy (-OH) on the necessary gene protein for the metabolism in the bacterial cell to generate alkylation reaction, replaces the above unstable hydrogen atoms to form compound with ethoxy (-CH₂CH₂OH). Because this compound destroys the necessary reaction groups in the metabolic reactions of microorganism, it affects the function of bacterial enzyme and kills the microorganism.

Ethylene oxide sterilization is broad-spectrum low-temperature sterilization method that uses ethylene oxide gas to fumigate the products sealed in the sterilization chamber at low temperature to achieve sterilization. It can kill various microorganisms at normal temperature, including spore, mycobacterium tuberculosis, virus, fungus, etc.; it has strong penetrating power, can penetrate microporous cotton wool products, plastic films, carton boxes and other packaging products, sterilization is reliable, and convenient for long-term storage. After sterilization, the products are placed in a well-ventilated room, and they can be used safely after volatilization.



Machining production area Large hydraulic swing-type plate shears Large plate cutting machine Large gantry planer Large vertical lathe Pressure vessel NDT room

Automatic submerged arc automatic welding Large-scale machining equipment Radial drilling machine processing area NC plasma flame cutting machine Large serpentine coil machine Large bending equipment

环氧乙烷灭菌器 Ethylene oxide sterilizer

环氧乙烷灭菌器结构组成：

灭菌箱体、加热系统、真空系统、加药及气化装置、残气处理系统、监测、控制系统组成。

灭菌箱体主要由内胆、外壳、管道组成；加热系统主要由加热带和温控器组成；真空系统主要由真空泵、控制阀、过滤器、抽真空管道组成；加药及气化装置主要由手动球阀、温度检测、气化加热系统、气化室组成；残气处理系统由残气处理水箱和阀门组成；检测系统由温度传感器、湿度传感器、压力传感器组成；控制系统由微电脑控制器、工控触摸屏、按钮等控制电气元件组成。

Structural composition of ethylene oxide sterilizer:

It consists of sterilization cabinet, heating system, vacuum system, dosing and gasification device, residual gas treatment system, monitoring and control system.

The sterilization cabinet is mainly composed of liner, shell, and pipelines; the heating system is mainly composed of the heating belt and the temperature controller; the vacuum system is mainly composed of vacuum pump, the control valve, the filter, and evacuation pipeline; the dosing and gasification device mainly consists of manual ball valve, temperature detection, gasification heating system and gasification chamber; the residual gas treatment system consists of residual gas treatment water tank and valve; the detection system consists of temperature sensor, humidity sensor and pressure sensor; the control system consists of microcomputer controller, industrial control touch screen, buttons and other control electrical components.

工作条件

- a) 环境温度：10℃~40℃；
- b) 相对湿度：不大于85%；
- c) 灭菌压力：0kPa~50 kPa
- d) 电源：AC 380V±38V；50Hz±1Hz

Working condition

- a) Ambient temperature: 10℃ ~ 40℃
- b) Relative humidity: not more than 85%;
- c) Sterilization pressure: 0kPa ~ 50kPa.
- d) Power supply: AC380V ± 38V; 50Hz ± 1Hz

标准配置单

Standard configuration list

(1)	环氧乙烷灭菌器	(1) Ethylene oxide sterilizer
(2)	环氧乙烷气体	(2) Ethylene oxide gas
(3)	指示卡28片	(3) Instruction card 28 pieces
(4)	检验报告	(4) Inspection report
(5)	综合说明书	(5) Operation manual
(6)	操作流程1份	(6) Operation process 1 copy
(7)	安装报告	(7) Installation report
(8)	合格证	(8) Certificate of quality
(9)	保修卡	(9) Warranty card
(10)	资质1份	(10) 1 copy of certification

►► 环氧乙烷灭菌器专用耗材：环氧乙烷指示外卡、环氧乙烷气体、环氧乙烷包装袋、环氧乙烷生物指示剂、生物培养箱等

Special consumables for ethylene oxide sterilizer: ethylene oxide indication card, ethylene oxide gas, ethylene oxide packaging bag, ethylene oxide biological indicator, biological incubator, etc.



环氧乙烷化学指示卡

Ethylene oxide chemical indicator card

本品为检测环氧乙烷灭菌效果和操作条件的综合指示卡。达到灭菌条件后，该卡将由红色转变成蓝色，即灭菌成功。

This is comprehensive indicator card for detecting sterilization effect and operating conditions of ethylene oxide. When it reaches sterilization conditions, it will change from red to blue, it means the sterilization is successful.



环氧乙烷气体

Ethylene oxide gas

环氧乙烷是一次性使用无菌医疗器械生产企业的关键设备原材料，应避免高温、高压、剧烈碰撞，远离物品30-50米以外。

Ethylene oxide is the raw material of key equipment for disposable sterilized medical device manufacturers. Avoid high temperature, high pressure and violent collision. Keep 30-50 meters away from goods.



生物培养箱

Biological incubator

本品用于环氧乙烷灭菌指示剂灭菌效果的检测培养，安全功耗低多重保护，符合CE安全标准。

This product is used to test the sterilization effect of ethylene oxide sterilization indicator. It's safe, with low power consumption and multi-protection, meeting CE safety standard.



环氧乙烷生物指示剂

Ethylene oxide biological indicator

本品用于环氧乙烷灭菌生物指示剂，枯草杆菌黑色变种芽孢抗力的存活时间大于或等于15分钟，杀灭时间小于或等于60分钟。

This product is used as biological indicator for ethylene oxide sterilization. The survival time of bacillus subtilis black variant spore resistance is more than or equal to 15 minutes, and the killing time is less than or equal to 60 minutes.



器械灭菌包装袋

Device sterilization packaging bag

将医疗器械装入包装袋，封口进行灭菌消毒，利用包装袋透过灭菌因子，不透过细菌的半透析性，对袋内的器械进行消毒。

Put the medical device into the packaging bag, seal it for sterilization and disinfection, use the semi-permeability of packaging bag which can be passed through by sterilization factor, but not passed through by bacteria, to sterilize the device in the bag.