

# YC-02实验室微型超高温杀菌机

## YC-02 LAB UHT STERILIZER

YC-02实验室微型超高温杀菌机是上海雅程专为高校、研究所和乳品饮料香精香料行业研发实验室模拟工业生产研制而成。设备产能为20L/H~25L/H, 且完全模拟工业化生产状态, 产品适应的粘度范围很大, 并能适应纤维和颗粒, 精确模拟调配、均质、老化、巴氏杀菌、超高温瞬时杀菌及无菌灌装等多种生产工艺。设备整机自成系统, 含在线CIP功能, 可根据研发实际需要配置均质机和无菌充填室。

YC-02 mini uht sterilizer is manufactured exclusively with advanced design & technologies to meet requirements from universities, institutes, enterprises' R&D Dept., and dairy industry for simulating industrial manufacture and research in laboratory. Rated capacity can be from 20L/h to 25L/h, completely duplication the industrial production, which is adaptive to wide ranges of viscosity, and be same with preparation of fibers and granules, precisely mimic prepare, homogeniser, aging, pasteurism, fast sterilization under superheated temperature and the germfree canned productions as well. The machine workstation system is integrated with the CIP function online, which can be configured optionally a homogeniser and a aseptic filling cabinet on your needs.

### 工作流程

- (1) 设备管道预杀菌: 对物料经过的管道进行过热水循环杀菌, 持续一段时间。随后将设备逐步冷却到生产温度, 进入待料状态。
- (2) 物料杀菌: 根据试验要求确定杀菌温度和杀菌时间(如产品需要均质, 则可以按照实际工艺要求选配前均质(杀菌前)和后均质(杀菌后))。
- (3) 灌装: 根据实验室需要可配置无菌充填室, 可选择热灌装和常温灌装。
- (4) CIP清洗。

The working steps

- (1) Tube preheating & sterilizing: to sterilize the tube by superheated water and last for some time, then chill out to normal temperature and stand by.
- (2) Material sterilizing: to ensure the sterilizing temp. & time according to experiment requirement(In line homogeniser can be added either upstream or downstream).
- (3) Aseptic filling: hot filling or normal temp. filling based on laboratory needs.
- (4) CIP cleanup.

物料 → 料斗 → 螺杆泵 → 预热段 → (均质) → 杀菌段(137~150℃) → 水冷 → (均质) → (冰冷) → 灌装

Material → hopper → screw pump → preheating tube → (homo.) → sterilizing tube(137~150℃) → water-cooling → (homo.) → (ice-cold) → aseptic filling



## 主要特点 CHARACTERISTICS

额定产能20~25L/H, 最小样品处理量为3~5L, 方便试验过程的备料并节省开发新产品的人力物力;

Rated capacity 20L/H~25L/H, lowest sample 3L~5L, handled easily and minimum sample required.

完全模拟工业化生产, 实验数据准确, 重复性好, 可直接移植到工业化生产;

Completely duplicating the industrial production, with high accuracy and good reproducibility, the data and sample obtained through this machine indicate the industrial production and many terms and conditions can be adopted or referenced directly.

整机自成系统, 内置加热锅炉和水冷冰冷装置(水冷可选), 无需蒸汽, 只需电源和水, 方便使用;

YC-02 mini uht sterilizer workstation with selected system components, all major components are housed within a stainless steel cabinet, as standard two electrically heated hot water recirculators, no steam required

PLC控制, 液晶触摸屏操作, 方便试验过程的监控;

PLC controller, LCD touch panel control fascia with flow path of system.

试验过程动画演示, 试验过程可自动或手动控制;

Two modes of run: Automatic-mode, and Eye-monitored mode for the purpose of easily controlling experimental process.

德国进口内置螺杆泵带自身CIP, 避免二次污染;

As standard a progressive screw pump(made in Germany) with CIP is used to avoid secondary pollution.

设备整机自成一体, 可移动, 对环境湿度要求不高

YC-02 mini uht sterilizer is mobile, and can be positioned in a wet or dry area.

无料报警功能和无料螺杆泵自动停止运转

Non-material warning functions.

试验数据实时记录, 可直接输送到OFFICE系统, 杀菌温度曲线和相关数据可直接保存至EXCEL文件, 无需任何处理, 方便论文的撰写;

Computer interface with real time temperature recording, the trial data can be used for the paper directly with excel file.

为了满足用户在实验范围调节各项参数的要求, 在杀菌温度控制和冷却温度控制(1段或2段)的设计上实行各段独立控制, 并采用实时调控PID恒温控制技术, 使全温区控温准确, 杀菌控温精度 $\pm 0.3^{\circ}\text{C}$ 。

Each heating section is individually controlled to enable a wide setting of product temperatures, the product is heated by pressurised hot water recirculators which are PID controlled for greater stability and accuracy(the precision of sterilizing temperature is  $\pm 0.3^{\circ}\text{C}$ ). The cooling is in 1 or 2 stages dependant on the final cooling temperature required.



## 技术参数

额定产能: 20~25L/H, 并可根据客户要求定制  
Rated capacity from 20 to 25 Liter per hour  
(Highly available by your demand).

杀菌温度 最高 $150^{\circ}\text{C}$ , 可根据试验需要调节  
Heating to  $150^{\circ}\text{C}$  (Celsius) at the flow rates stated.

最低冷却温度 $5^{\circ}\text{C}$   
Cooling to below  $5^{\circ}\text{C}$  (Celsius) at the flow rates stated.

温控精度:  $\pm 0.2^{\circ}\text{C}$   
Temp. Precision:  $\pm 0.2^{\circ}\text{C}$

杀菌时间 3S, 5S, 10S, 30S, 300S (可选), 并可根据实际需要调整  
The times of sterilizing include 3S, 5S, 10S, 30S, 300S

最高压力 8bar  
Product system pressures to 8 bar.

自身SIP功能, 对所有的灌装管路在线杀菌  
SIP (Sterilise In Place) an option for Aseptic sampling.

自身CIP功能, 符合工业CIP标准(400L/h)  
Built in true CIP (Clean In Place), flow for CIP more than 400 Ltr per hour

出口温度可按照需要调整  
Outlet temp. be adjustable

电源 3相电源, 380伏特, 接零、地线  
380 volt 3 phase, 50 or 60 Hz.

设计功率 10KW  
Power: 10KW

整机尺寸 1650 (H)  $\times$  1150 (L)  $\times$  910 (W) mm  
Size 1650 (H)  $\times$  1150 (L)  $\times$  910 (W) mm



## 应用范围 Application

各种果汁（含带有颗粒的果汁和果汁饮料）、鲜奶、酸奶和各种乳制品（包括布丁）、茶饮料、有颗粒的沙司（调味品）、汤汁等。  
Such as fruit juices, milky products, tea, sauce dressings, soups and so on.

### YC-02超高温杀菌机配套无菌灌装机技术参数 YC-02F filling system

本充填室安装在超高温杀菌机之后，为一独立工作单元。系统内装有10升(或5L)容量之夹套缓冲罐，配备单头充填阀。样品充填灌装时由一个电磁阀控制，通过脚踏开关实现。同时，系统内配有SIP组件，可以满足无菌充填时SIP使用。

This cabinet is connected after the uht heat exchanger and installed as a separated unit. A 5L(or 10L) filter jacketed filling device is built-in with a single filling valve. The filling process for each package is controlled by a solenoid valve with a pedal switch. Meanwhile, this system is equipped with sip plate pack for sip which is required for aseptic application.

HEPA高效过滤膜，过滤效率99.999%

Filter efficiency 99.99%

可充填PET瓶（独有技术）

PET bottle suitable

含10L（或5L）带夹套缓冲罐1个

10L jacketed filling device

气动填充阀

Air operated filling valve

臭氧生成系统(可选)

Ozone generating system  
(optionl)

物料接触部分316L不锈钢材质

All surface contacting  
product in s. s. 316

