



Safe
Durable
Professional
安全 · 耐用 · 专业



SENCO®
Trade mark

ISO9001:2015
Certified Manufacturer



Rotary Evaporators
Glass Reactors

Design for
GMP

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您身边的**个性化定制**专家
Your **personalized** equipment expert

SENCO® 生科仪器

上海申生科技有限公司

专注领域：液液分离、液体提纯

成立时间：1998年

注册商标：SENCO®（生科）

总 经 理：张翼和教授（享受国务院特殊津贴专家）

上海申生科技有限公司(Senco)成立于1998年，是实验室仪器，生化仪器的专业设计和制造商。直属工厂位于上海，主导产品线包括：短程蒸馏系统，旋转蒸发仪，玻璃反应釜(器)，相关配套真空、冷热循环、过滤等设备。产品主要应用于生化制药、自然物提取、植物提取、精细化工、科学研究等领域，已通过ISO9001:2015及CE认证。

公司总理由享受国务院特殊津贴专家，教授级高级工程师张翼和先生担任。公司拥有多项原创国家级专利技术和未公开专有技术。凭借成熟的设计和制造工艺，产品主要性能指标已达到或接近世界知名品牌。

Senco经历了20多年的发展，累积了极为丰富的用户群及产品应用经验。品牌以**技术含量高、返修率低、诚信服务、定制能力强**著称。产品在德、法、美、加、俄、韩、以色列、印度、土耳其、埃及等五大洲30多个国家使用。产品及服务能力获得全球经销商及最终用户的广泛好评。

生科仪器(SENCO)的主要产品系列

■ 短程蒸馏/分子蒸馏系统

■ 旋转蒸发仪(器)

■ 多功能恒温反应器

■ 真空泵

■ 真空过滤器

■ 恒温浴锅

■ 夹层玻璃反应釜(器)

■ 真空控制器

■ 制热/制冷循环器（泵）

■ 分液器

■ 恒速搅拌器

1998-2001

上海申生科技成立，推出自主研发的旋转蒸发器系列(1-20L)。2001年公司注册了SENCO®商标，正式推出民族品牌——生科仪器。

Senco Technology came into existence, and released its independent design of Rotary Evaporator Series (1-20L) as a pioneer to China market. In year 2001, company registered brand SENCO®, started to cultivate national market in bio-chemical equipment industry.

2002

“聚四氟乙烯真空阀”研制成功，获国家专利，从此取代“玻璃真空阀”，现已在全行业推广。

Senco "Complete PTFE Valve" successfully designed and applied patent, which completely replace traditional glass cork and widely applied in whole trade now.

2003

SENCO研制出独特的“倾斜式真空恒温反应器”获国家专利。产品独树一帜，广受欢迎。

Successfully developed SENCO unique "Incline Stir Multifunctional Reactor" (patent product), which can create complete stereo stir effect to meet special market needs.

2004

SENCO研制成功“串联式连续收集旋转蒸发器”获国家专利，在2008年 P-MEC 国际展会，已有50%的中国同行“仿制”SENCO专利产品。

Successfully developed SENCO "Tandem type Continuous Receiving Rotary Evaporator" (patent product). The patent tech is widely applied on over 50% brother chips in China on 2008 P-MEC International Exhibition.

2006

与旋转蒸发器配套的关键设备“真空控制器”研制成功，国内首创，独家生产。

Pioneer in developing Vacuum Controller, key equipment in evaporation process, and become the only manufacturer in China for vacuum controller.

SENCO TECHNOLOGY CO. LTD.

SENCO Technology is one famous professional Chinese designer & manufacturer of lab and pilot apparatus applied in biochemical, pharmaceutical, fine chemical, Natural Extracting, Plant Extracting and research field. Main products are Short Path Evaporator, Rotary Evaporators, Glass Reactors, and complementary Vacuum Pumps, Heating/Cooling Circulators, Filter etc. Factory and Products have been certified by ISO9001:2015 and CE.

SENCO was founded in 1998 in Shanghai China, by Professor Yihe Zhang who enjoys special allowance from State Department of China. SENCO owns lots of original patents and unpublished technologies, a 1500 m² factory and a group of devoted engineers and well-trained staff. Most key parameters of products reach or are closed to that of global-known brands.

With over 20 years development, Senco accumulated rich customer groups and huge amount of application experiences; Brand has won wide market recognition on **reliable technology, low repair rate, sincere service** and **strong customization ability**.

SENCO persists on offering satisfied product at a reasonable price to our customers. Products have been applied in 30 more countries including Germany, France, USA, Russia, Canada, South Korea, Israel, Turkey, India, Egypt, etc.

SENCO registered trade mark: **SENCO**.

ISO9001:2015 Certified Manufacturer

China 3A Enterprise Credibility

Main products

■ Short Path Evaporator / Molecular Distillation System	
■ Rotary Evaporator	■ Jacketed Reactor
■ Multifunctional Glass Reactor	■ Vacuum Controller
■ Vacuum Pump	■ Heating/Cooling Circulator
■ Vacuum Filter	■ Liquid Separator
■ Constant Temperature Heating Bath ■ Constant Speed Overhead Stirrer	



2008

SENCO旋转蒸发器“第四代密封”技术研发成功，其关键指标：“到达真空度”由399Pa提高到133Pa。SENCO携专利产品，走出国门到印度参加国际展会。其后，SENCO品牌持续出现在各海外市场。

SENCO "4th Generation Rotary Seal" introduced, bring SENCO sealing standard from ultimate 399Pa up to 133Pa. Senco participated international exhibitions with patent products, and keeps showing in oversea exhibitions in following years.

2009

SENCO企业获得征信机构“AAA信用资质”评级。SENCO品牌获最受欢迎“十大实验室仪器设备企业”。SENCO大型旋转蒸发器荣获中国仪器仪表行业“自主创新金奖”。

SENCO enterprise is certified as "AAA Enterprise Credibility" from credit agency SENCO® Brand wins "The Most Popular 10 Brands in Lab Apparatus Trade" SENCO pilot Rotary Evaporators gain the honor of "Product Innovation Gold Award" from China Instruments and Apparatus Industry.

2011

SENCO四大系列产品通过CE认证，进入西欧市场。

Main product lines of SENCO get CE certificate and enter West European Market

2014-2016

2014年，经过5年多潜心研发，SENCO分子蒸馏(短程蒸馏)系统MD系列面市，系统压力可轻松稳定到达0.1Pa (0.001mbar)。2016年全预热系统上市，为粘度物料用户提供完美解决方案。

SENCO Short Path Distillation System (MD series) come into market in 2014 after over 5 years development. System vacuum rate reaches 0.1Pa (0.001mbar) easily with reliable sealing design. Year 2016, Senco launched pre-heated MD system which helps all users with viscid materials to get their high purity products.

服务、品质
SERVICE & QUALITY

短程蒸馏系统
SHORT PATH DISTILLATION

旋转蒸发器
ROTARY EVAPORATOR

夹层玻璃反应器
JACKETED REACTOR

多功能反应器
MULTIFUNC. REACTOR

真空配套
VACUUM PRODUCTS

冷却/循环
COOLING / ATING

搅拌
STIRRING

品牌保证 — 安全 · 耐用 · 专业

SENCO® ASSURANCE - Safe · Durable · Professional

品牌优势 The Brand



SENCO注册商标
Brand Register of SENCO



实验室装备行业最受欢迎十大品牌
Most Popular Brands in China Lab
Apparatus Trade

- SENCO商标于2001年注册，是中国实验室仪器一线知名品牌。
- SENCO致力于造国产精品，替代进口。
- 以一贯卓越的品质及售后支持能力，赢得五大洲30多个国家地区客户的广泛认同和赞誉。
- SENCO的品牌含义：“安全 · 耐用 · 专业”。选择SENCO，选择保障和安心。
- SENCO® brand was registered in 2001, is one well known brand in China Lab Equipment Trade, esp. for its liquid separation equipment such as Molecular Still, Rotary Evaporator, and Glass Reactor etc.
- Commits to be Local Best & an optional replacement to import brands;
- Has been widely recognized and won reputation for quality and service among customers in 30 more countries.
- Brand Interpretation: **SAFE - DURABLE - PROFESSIONAL**. Choose SENCO, choose Guarantee and Relief.

设计资质 Design



年度科技创业领军人物
Year Pioneer of Creativity Award



企业标准审批资格证
Enterprise Standard Draft &
Approval Qualification

- 由30年以上实践经验的教授级高工主持，设计团队遵循产品高效，耐用和安全的设计理念。
- Engineering team presided over by professor level chief engineer who has over 30 years practical working experience. Products inherit characters of Safe, Durable and Efficient.
- 按《中华人民共和国标准化法》和“上海市质量技术监督局”的有关规定，本公司拥有自行制定和审批产品企业标准的资质。
- According to prescripts from "Standardization Law of The People's Republic of China" & "Shanghai Quality and Technical Supervision Bureau", Senco has qualification to establish, review and approve enterprise product standard independently.



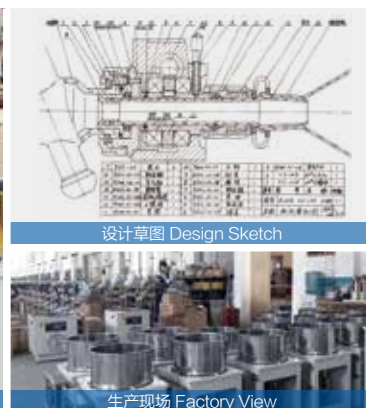
转速调试 Speed Regulation



高压测试 High Voltage Test



防爆控制箱 Ex Control Box



设计草图 Design Sketch

生产现场 Factory View

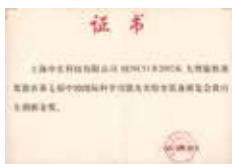
技术及知识产权 Patent & Technology



多项专利证书
Cert. of Patent Technologies

- 公司拥有原创专利三项(公开)、专有技术数十项(不公开), 产品技术有独特优势。
- 产品不断创新, 持续优化, 与国际接轨。

- Senco owns 3 original patent technologies (published) and dozens of know-how technologies (not published). Products have unique advantages on overall design.
- Keeping improvement and innovation; aiming to be competitive to top brands in the world.



自主创新金奖
Gold Award for Product Innovation

- 产品设计模块化, 确保零件互换性。用户在装卸、使用、保养和维修时, 将十分便捷。
- 序列化设计, 产品后续功能扩展及系统升级能力强。

- Modular design ensures interchangeability of parts; simplicity of assembly, use, maintenance and repair.
- Serials design enables future function extension and possibility of system upgrading.

制造 Manufacture



工厂上海生产基地
Factory of SENCO in Shanghai

- 样本中所有产品(冷热循环器, 真空泵除外)全部为本公司直属工厂上海制造。
- 公司拥有1500m²生产基地, 确保SENCO产品纯真品质和快速交货。

- All products in catalogue (except Vacuum Pumps & Cooling/Heating Circulators) are produced by Senco factory in Shanghai.
- Factory occupies 1500m² land, is able to guarantee Senco quality and fast delivery to buyers. (Genuine products assured from factory direct sale)



ISO质量管理体系认证
ISO 9001:2015 Certified Manufacturer

- 工厂获得ISO9001:2015质量管理认证, 对原材料及配套件均经过严格认定和筛选, 从源头上保证产品耐用性和安全性。
- 重要零部件加工有严密工艺工装保证, 确保产品整机精度和零配件互换性。

- Factory has passed ISO9001:2015 QMS. All raw materials and accessory parts are selected and tested strictly, which ensures product's durability and safety from the beginning of production.
- Key parts production is guaranteed by SENCO production equipments and technique, which ensure production precision and interchangeability.



产品CE认证
CE Certificate

- 主要产品系列均已获得CE认证, 出口西欧国家。

- Products have got CE certificate, and have been exported to European countries.



出厂前的各项检验
Various Testing before shipping

- 产品出厂前经电气耐压、玻璃应力、温控波动、噪声、气密性、安全防护等多项检验。

- Products pass various inspections before package, which include: test of electrical voltage durability, glass inner stress, temperature control wave accuracy, operation noise, sealing performance and safety protection, etc.

服务保障—热诚 · 专业 · 快捷

SERVICE GUARANTEE - Persistent · Professional · Quick Response

产品质保 Product Warranty

因产品制造问题造成的故障，Senco提供一年免费维修，终身服务。

13-month factory repair or parts replacement service for product failures due to manufacturing defect.

SENCO的售前售后服务包含：

■ 专业选型及配置咨询

不花哨，不浪费。用更经济的配置方案，满足用户的实际需求

■ 与客户“一起做实验”

提供设备实验场所，与用户共同探寻最佳设备配置方案，满足特殊用户采购需求。

■ 精益生产和限时供货

出厂产品均通过层层质检，在约定时间及时发货。

■ 约定上门安装及培训

大型机由专业客服人员上门安装并提供人员培训指导。

■ 售后使用及维护指导

后期免费应用指导，助您效率倍增，产品寿命大大延长。

■ 贴心维修保养方案(选用)

提供专业上门服务，定期为您的设备进行保养升级。

■ 丰富备件长期供应

即使是SENCO的早期产品，零件也将持续供应，解除用户后顾之忧。

SENCO Pre & Post Sales Service Package:

■ Professional consultation service on System Configuration

No showy, no waste; We propose more economical & practical solution to meet user's real needs.

■ Experiment with Customers

We offer experimental site for buyers with special needs; do experiments with customers so to ensure suitability of SENCO apparatuses to buyer's needs.

■ Excelsior Production & On-time Delivery

Products are tested by many indexes before shipping. Lead time will be strictly controlled.

■ Post-sales Directions on Product Application

Offer free guidance on products operation; help user to improve working efficiency and extend product service life by much.

■ Repair and Maintenance support

Strong ability on remote trouble shot guidance. Oversea buyers are able to solve problem in short time.

■ Rich parts supply always

Rich & interchangeable parts available to SENCO customers even for out-dated products. Users are released from worry of maintenance and parts' cost.



SENCO. 上海申生科技有限公司		产品型号: 2502B
合格证		产品编号: 15607
CERTIFICATE OF QUALITY		出厂日期: 2015.11.17
检验员: [Red Stamp]		检验日期: [Red Stamp]
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P07

短程蒸馏(分子蒸馏)系统 Short Path (Molecular) Distillation System

适用于热敏、易氧化、难分离物料的物理分离。
Suitable for separation of fluids that is heat sensitive, easy to be oxidized, or time & heat consuming during separation

系统压力达到0.1Pa
System vacuum reaches 0.1Pa



P11

旋转蒸发仪 Rotary Evaporator

浓缩 | Concentration
干燥 | Drying
提纯 | Purification
分离 | Separation
结晶 | Crystallization

中试机型 | 实验室机型
Pilot Scale | Lab Scale



P17

真空控制 Vacuum Controller

提供自动过程压力控制
Offer auto control of system pressure in process

在溶剂回收上的应用实例
Applications on solvent recovery



P21

玻璃反应器(釜) Glass Reactors

合成 | Combination
萃取 | Extraction
反应 | Reaction
分离 | Separation
浓缩 | Concentration

开盖式反应釜 | 多功能反应釜
真空过滤器 | 常温反应分液器
Cap Style Reactor | Multifunctional Reactor |
Vacuum Filters | Room Temp. Reactor/Separator



P32

冷热、真空、搅拌、其他 Cooling/Heating, Vacuum, Overhead Stirrer, etc.

提供系统所需的冷热及负压环境
To supply desired Cooling/
Heating & vacuum condition

单冷、单热循环器 Cooling/Heating Circulator
冷热一体循环器 Thermostat
水浴/油浴锅 Water/Oil Bath
真空泵 Vacuum Pump
搅拌器 Overhead Stirrer

MD短程蒸馏系统(分子蒸馏)

SHORT PATH (MOLECULAR) DISTILLATION SYSTEM

短程蒸馏(分子蒸馏)是一项新的“液-液”分离技术，能解决常规蒸馏技术所不能解决的问题。它能在极高真空下依据分子运动平均自由程差别，在远低于液体沸点的温度下实现“液-液”分离。特别适用于高沸点、热敏性、易氧化物料的分离和提纯。

主要应用领域：保健品、食品、药物、精细化工、电子材料、塑料工程及聚合物(如多元醇、脂肪酸、多元酚类化合物、聚氨酯、环氧树脂、乳酸、单甘酯、香精香料、重油以及石蜡油)的分离提纯等。

Molecular Distillation/Short Path Distillation

is a comparatively new separation technology. It can separate liquid-liquid mixture under temperature that is far lower than boiling point by the difference of mean free path of molecules under high vacuum condition. Such separation is difficult or unable to achieve on normal distillation equipments. Molecular Distillation is especially **suitable to separate substances of high boiling point, heat sensitive and easy to be oxidized.**

Main application field: Separation process in trades like Food, Pharmaceutical, Fine chemical, Electronic materials, Polymers (Polyols, fatty acids, polyphenols-compounds, polyurethane, epoxy resin, lactate, glycerol monostearate, flavors and fragrances, fuel oil and paraffin oil), etc.

分离特点及原理

1. 操作温度远低于物料沸点

处理热敏物料，生物酸脂，高沸点物，难蒸出的物料有很大优势

2. 受热时间极短

普通蒸馏需要受热数小时的过程，在短程蒸馏上几十秒就可完成，低碳环保，且利于保持物料活性

3. 属于物理分离过程

可保持物料自然状态不受污染。广泛用于高附加价值物料的脱臭、脱色及提纯。

Features and working principle of Short Path distillation

1. Distilling temperature far lower than the boiling temperature

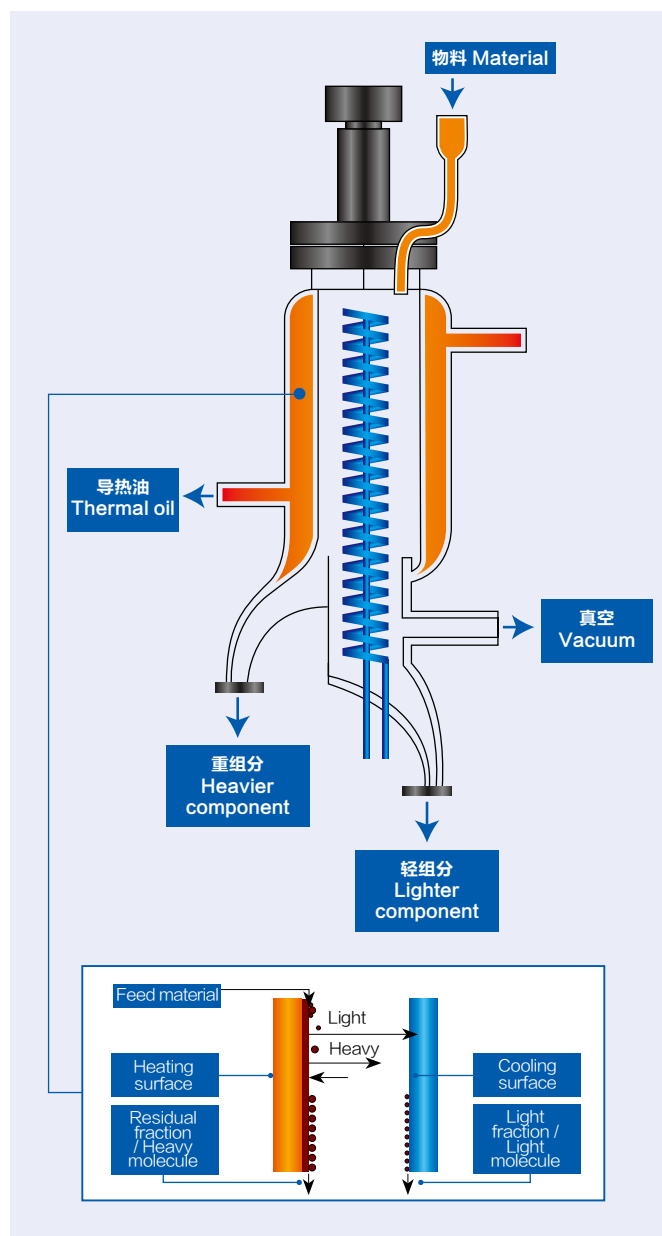
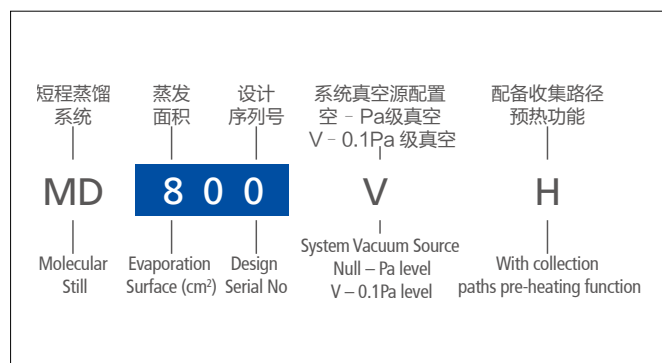
Has advantages on dealing with materials that is heat sensitive, of high boiling temperature, belongs to biological acids or lipids

2. Heating process on material is very short

It may take only few tens of seconds to finish a separation on short path distillatory when it takes hours on a normal evaporation apparatus.

3. It is a physical separation process

A natural and gentle separation process that is widely applied on deodorization, decolorization, and purification of materials of high value.

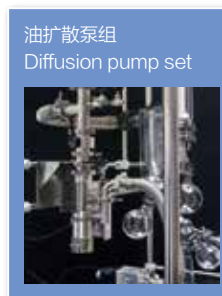
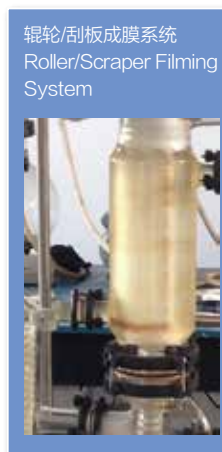


SENCO MD 的特点

- 1.全透明** — 有利于观察物料在不同压力、温度、流量、转速条件下的各种变化(如颜色, 粘度, 成膜效果, 出馏临界点等)。十分有助于快速获得实验数据和确定最佳工艺参数。
- 2.高气密性** — 采用磁性耦合传动系统, 配合SENCO精细平面密封加工工艺, 确保系统压力可达0.001mbar。
- 3.高清洁度** — 分离过程中物料仅与玻璃及PTFE材料直接接触, 大幅降低与金属反应的可能。
- 4.易拆洗维护** — 全法兰快装快拆设计, 拆装迅速简便。同时附赠SENCO定制清洗套装, 帮您解除维护保养的烦恼。
- 5.三分出料** — 可在不停机情况下接收三组过程组分, 提高实验效率, 帮助过程分析。

Features of SENCO MD

- 1.TRANSPARENT** — Allow an easy observation in whole experiment process on materials (color, fluidity, film effect, start point of distilling, etc.) when changing of settings of pressure, temperature, feed and rotation speed. The convenience does help to get the optimum technological parameters and the experimental data easier and faster.
- 2.HIGH PRESSURE TIGHTNESS** — Magnetic coupling drive system plus SENCO fine processing technics on sealing surface, both guarantee system vacuum down to 0.001mbar easily and stably.
- 3.CLEANESS** — Material can only touch glass and PTFE during separation process, worry free of reaction with metal.
- 4.EASY MAINTENANCE** — Quick disassemble structure and specially designed cleaning kits enable maintenance job fast and simple.
- 5.COW DISTILLATION RECEIVER** — Allow user to collect 3 samples during one separation process which increases experiment efficiency and assists process analysis.



标准机型 Std. Configurations

Basic Models	MD-800	MD-800V	MD-1200	MD-1200V	Remarks
系统极限压力 Sys. ultimate pressure	0.05mbar (5Pa)	0.001mbar (0.1Pa)	0.05mbar (5Pa)	0.001mbar (0.1Pa)	
主真空源 Main Vacuum Supply	旋片泵 Vane Pump	旋片泵 + 油扩散泵 Diffusion Pump Sys.	旋片泵 Vane Pump	旋片泵 + 油扩散泵 Diffusion Pump Sys.	可预留接口连接客户系统 Can reserve port for user's pump
蒸馏单元 Evaporation Unit	夹套蒸发器，蒸发面积 800cm ² Jacketed evaporator with evaporation surface		夹套蒸发器，蒸发面积 1200cm ² Jacketed evaporator with evaporation surface		可定做更大规格 Other size optional
冷凝单元 Condensing Unit	内置冷凝， 冷凝面积 1100cm ² Inner Condensing Surface		内置冷凝， 内置冷凝面积 1600cm ² Inner Condensing Surface		可定做外置冷凝为降膜蒸发器 Can modify to Falling Film Evaporator
旋转驱动单元 Rotation Drive Unit	磁力驱动 Magnetic drive rpm 60-480				
成膜单元 Film forming Unit	PTFE 刮板成膜（或替换为自清洁辊式成膜） PTFE Wiper Filming (or to change to Roller Filming)				
进料单元 Feeding Unit	1L 进料瓶，进料速度 10-5000ml/ 小时 1L Feeding Flask, feeding speed 10-5000ml/hr		2L 进料瓶，进料速度 10-5000ml/ 小时 2L Feeding Flask, feeding speed 10-5000ml/hr		进料速度与具体物料的分离速度有关 Feeding Speed depends on material nature
出料单元 Collection Unit	轻重组份 Distillate & Residue 1000ml + 1000ml		轻重组份 Distillate & Residue 1000ml +2000ml		
真空系统 Vacuum System	不锈钢阀门组，真空管道，接口 SS Valve & Tubing set				
压力显示 Pressure Display	全量程数显 Gamut Digital Display				
预脱气接口 Pre-degasification port	●	●	●	●	
冷阱 Cold Trap	●	●	●	●	可定制 customizable
清洗套装 Cleaning Kits	●	●	●	●	赠送 Present
标配机架尺寸 Overall Dimensions	1200x600x2000		1200x600x2300		不含选件 not incl. optional units
电源 Power Supply	AC220V, 1P, 50/60Hz				

各单元选配功能 Optional Functions

	MD-800	MD-800V	MD-1200	MD-1200V	Remarks
夹套预热进料 Feeding Flask Preheating	○	○	○	○	
连续进料 Continuous Feeding	○	○	○	○	速度可调 speed adjustable
三分收集 Cow Distillation Receiver Set	○	○	○	○	适合过程研发使用 Good for new process development use
收集路径预热 Collection Path Preheating	○	○	○	○	
轻 / 重组分连续出料 Continuous Discharging (distillate / residue)	○	○	○	○	
大容量进出料 Big capacity feeding/collecting	○	○	○	○	可定制 Customizable
冷热循环系统 Heating/Cooling Circulators	○	○	○	○	按需配置 To be configured according to needs
带轮 3 层辅助框架 Attaching 3-deck Frame w/wheels	○	○	○	○	可放置配套冷热循环设备 For heating/cooling circulators use

SENCO的【与用户一起做实验】实践

Do experiment with Users

服务、品质
SERVICE & QUALITY

短程蒸馏系统
SHORT PATH DISTILLATION

旋转蒸发器
ROTARY EVAPORATOR

夹套玻璃反应器
JACKETED REACTOR

多功能反应器
MULTIFUNC. REACTOR

真空配套
VACUUM PRODUCTS

冷热/循环
COOLING / ATING

搅拌
STIRRING

液-液分离时—

物料沸点太高，蒸不出，怎么办？
不同物料沸点相近，分不清，怎么办？
热敏物料，加热易变性，怎么办？
普通精馏耗时太长，能耗大，收率低，怎么办？

SENCO提供一项高附加价值的**免费**体验服务—**【与用户一起做实验】**，帮助客户确认设备适用性和有效性。

即便是相同的设备，因设计和制造工艺差别，分离步骤差别，也会导致蒸不出，分不清，效率低的问题。欢迎咨询SENCO公司(021-63040662; web@senco.cc)，获得更多专业信息和帮助。

In some liquid-liquid separation

What to do when material's boiling temperature is too high to evaporate?
What to do when boiling temperatures of 2 materials are too close to be separated clearly?
How to process material that is sensitive to heat and easy go denatured in distillation process?
Any other way to try when a rectification process takes long time but with poor receiving rate?

We invite you have a try of SENCO short path distillation system (MD). Users in China can enjoy our high value-added service free of charge —**"DO EXPERIMENT WITH USERS"**.

SENCO will submit samples for user analysis after separation on MD so to test equipment's suitability and efficiency to your material. Contact for more information and assistance thru support@senco.cc

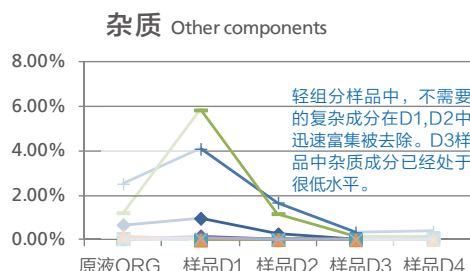
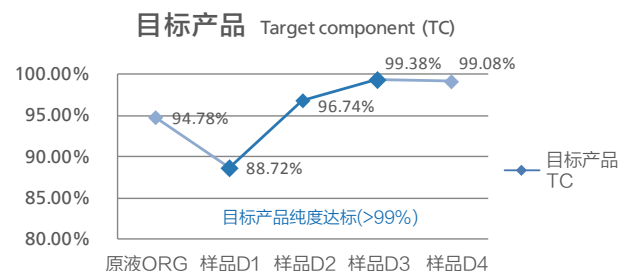


实验案例

某客户希望获得纯度>99%的目标产品，使用传统蒸馏装置遇到如下问题：温度太高，耗时很长且收率很低。通过与SENCO合作开发工艺，最终在MD短程蒸馏设备上得到满意结果。产品合格率和稳定性通过测试，**收率达到传统设备的220%，耗时降低70%以上；分离过程简单清洁**；设备总成方案依据实验结果，确定了最为适用的设备配置，极大降低了采购成本和后续使用成本，显著提升了产出率。

Experiment Case

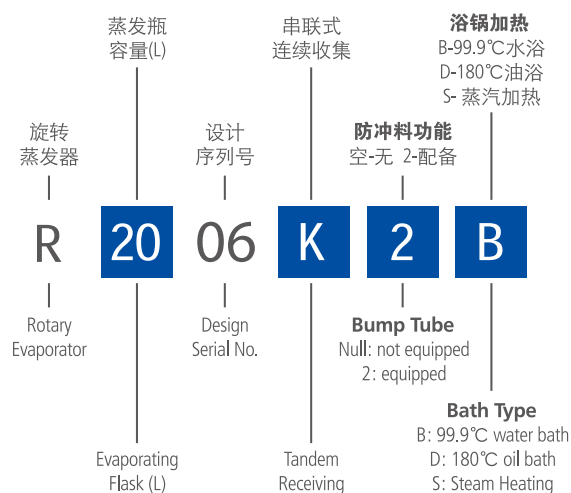
SENCO helped one customer to get qualified product on SENCO MD with **receiving rate 220% comparing to traditional separation while process consuming time decreased by 70%, process was clean and simple**. Final equipment proposal applied optimum configurations base on experiment result which helped customer reducing purchase, maintenance and production cost significantly, and brought them much higher output ability.



旋转蒸发器

ROTARY EVAPORATOR

10-50L



PTFE进料阀

最新结构及材料设计，全程高清洁进料，高耐腐蚀耐磨。

PTFE Charging Valve

New structure and material applied, is able to offer purely clean charging process and durable use experience.



全PTFE真空放料阀 (专利号: 01253089.1)

Senco专利技术，耐腐蚀，放料过程对物料完全无污染。

PTFE Cork (Patent No. 01253089.1)

Senco patent structure. Cork is anti-corrosion, no vacuum grease, no pollution to solvent received.



快拆法兰压紧环

可提供高气密，高耐腐蚀，无需工具装卸的法兰连接新体验。

Flange Quick Press Ring

One-piece quick clip design. Offer new experience on easy, reliable, and high sealing connection for flanges (no tools required).



整机全精密法兰连接 — 装拆安全易保养

串联式连续收集技术(专利) — 蒸发过程亦可随时放料，连续工作不受影响。

Overall Flange Joints

— No dead seizure to glass joints, safe during installation & maintenance

Patent Continuous Receiving Tech.

— Allow solvent discharge during evaporation process without system vacuum releasing or wave.

50L, R5006KB
w/optional functions
含选配功能



耐腐蚀旋转密封技术

独特设计和超精制造工艺，使系统最高真空度达到133Pa，且90%的用户一年内不必更换密封件。

Anti-corrosion & Wearable Sealing System

Specially designed and precisely manufactured. Enable system ultimate vacuum rate reaching 133Pa. 90% users do not need to replace rotary seal in one year.



电动升降

提供平稳的浴锅电动升降，在断电时亦允许手动应急升降。

Electric Lifting

Offer smooth electric bath lift with manual lift function for emergency power failure use.



隔爆型防爆(选配功能)

提供电机、旋转电控，加热电控，整机接线及安全防护措施的多方面防爆升级服务。可以达到ExdIIBT4级别。

Ex-proof Modification (Optional)

Offer EX proof upgrade on Motor, Control Boxes of rotation and heating, Wiring, and Safety measures per user needs. Ex level reaches ExdIIBT4.



本安型防爆(气动)(选配功能)

提供整机气动控制，防爆等级可达ExiICT6。

Intrinsically safe explosion-proof (compressed air driven) (Optional)

Ex level reaches ExiICT6. Can be customized for users with special ex-proof needs.



防冲系统(选配)

选配后可预防物料意外爆沸，冲入收集瓶而污染收集物。

Bumping Tube (Optional)

Preventing unexpected solution bumping into receiving flask.



卸瓶架(选件)

专为卸载和移动内含物料的20L，50L蒸发瓶设计，非常安全实用。

Flask Unload Handler (Optional)

Specially designed for handling and unloading big capacity evaporating flask, is one useful and popular optional tool.

服务、品质
SERVICE & QUALITY

短程蒸馏系统
SHORT PATH DISTILLATION

旋转蒸发器
ROTARY EVAPORATOR

夹层玻璃反应器
JACKETED REACTOR

多功能反应器
MULTIFUNC. REACTOR

真空配套
VACUUM PRODUCTS

冷热循环
COOLING / HEATING

搅拌
STIRRING

在中试生产级旋蒸领域

Senco独有串联式连续收集技术，旋蒸系统需中途放料时，不必因此停止蒸馏过程，也不必重新抽真空。该设计使旋蒸系统实现真正无真空波动的连续工作，在大大提高旋蒸生产效率的同时，也简化了收集系统的连接结构，降低破损率、提高密封性能。(适用K型号)

In Pilot Production Evaporating Field

With Senco unique tandem receiving technology, Solvent Discharge no longer need to stop evaporation process, to release and re-pump system vacuum. The technology allows real continuous work without vacuum wave, which obviously increases productivity, simplifies system receiving structure and improves sealing performance. (for K series)



串联式连续收集旋转蒸发器专利技术 (专利号: 03229693.2)

Tandem Type Continuous Receiving Technology

特性 Characteristic	Senco串联式连续收集 SENCO Tandem Receiving	V.S.	传统并联式连续收集 Traditional Parallel Receiving
工作原理 Work Principle			
蒸发稳定性 Evaporation Performance	- 放料切换时，系统真空度恒定不变，利于蒸馏样品一致性。 - System vacuum does not drop during discharging shift. Sample received keeps consistent quality.		- 放料切换时，系统真空度短时急跌，影响蒸发并可能引发冲料。 - System vacuum drops suddenly during shift which affects evaporation and may cause sample bumping.
结构合理性 Structure Rationality	- 结构紧凑稳固易安装维护。 - 泄漏点直接减少50%，系统极限真空度进一步提高。 - Easier installation and maintenance in compact tandem type structure. - Leakage points reduced by 50%. Ultimate system vacuum is improved further in SENCO Tandem Type Receiving Structure.		- 三叉玻璃连接结构易导致玻璃件破损，安装维护要求较高。 - 漏气点多 - Glass parts may be damaged under improper installation of parallel type structure. - More leakage points because of more joints and valves in traditional Parallel Type Receiving Structure.

基本参数 Parameters

SENCO旋转蒸发器 ROTARY EVAPORATOR 10-50L

标准机型	Standard Model	R1002B	R2002B	R2005KB	R2006KB	R5005KB	R5006KB
相关型号	Relevant Model	R1002D /	R2002D /	R2005KD R2005K2B	R2006KD /	R5005KD R5005K2B	R5006KD /
蒸发瓶 (L)	Evaporating Flask (L)	10L/ F95	20L/ F95	20L/ F120		50L/F120	
收集瓶带放液口 (L)	Receiving Flask with bottom discharge (L)	5L/ F40	10L /F40	10L/F40	10L/F40	20L/F40	20L/F40
冷凝面积 (m ²)	Condensing Surface (m ²)	0.57	1	1	1	1.5	1.5
转速 (rpm)	Rotation Speed (rpm)	3-110					
蒸发速度 (H ₂ O)**	Evaporating Speed (H ₂ O)**	3L/h	5L/h	5L/h	5L/h	9L/h	9L/h
到达真空 (Pa)	Reachable Vacuum Rate	< 133Pa (1.33mbar, 1 Torr)					
浴锅功率 (kW)	Bath Power (kW)	3 / 2 (Ex or oil)	5 / 3.6 (Ex or oil)			9 / 6 (Ex or oil)	
静态温控范围及波动 (℃)	Static Temp. Control Range & Wave (℃)	0-99(180)±0.2					
浴锅尺寸 (cm), 容量, 材质	Bath Size, Capacity, Material	Ø35x25H, 22L, SUS304	Ø45x27H, 40L, SUS304			Ø55x32H, 70L, SUS304	
电源	Power	220V, 1P, 50/60Hz				380V, 3-p, 50/60Hz	
整机尺寸 (cm)	Dimensions (cm)	95x50x180H	110x60x210H	110x65x190H		130x80x200H	

** 最大蒸发速度与工艺参数设定, 配套设备性能及匹配度等有关。

Max evaporating speed is affected by operation settings and the performances and matching levels of supporting equipment.

功能配置 Functional Configurations

型号	Model	R1002B	R2002B	R2005KB	R2006KB	R5005KB	R5006KB
3	玻璃连接 Glass Connection	磨口配PTFE隔膜 Taper Joint w/PTFE Sleeve		整机镜面法兰 Mirror polished flanges			
5	浴锅电动升降 Electric Bath Lift	/	/	/	●	/	●
	串联式连续收集 Tandem Type Continuous Receiving	/	/	●	●	●	●
4	PTFE组合动密封 PTFE Rotary Seal Assembly	●	●	●	●	●	●
	变频调速 Frequency Conversion Speed Control	●	●	●	●	●	●
1	进料阀 Charging Valve	玻璃 Glass		PTFE			
2	放料阀 PTFE Discharge Valve	PTFE					
	真空表 Vacuum Meter	●	●	●	●	●	●
	真空节流 Throttle Valve for Vacuum	●	●	●	●	●	●
	冷却水快接头 Quick-change Adaptor for Cooling Circulation	/	/	●	●	●	●
	蒸汽测温口 Thermometer Neck for Vapor	/	/	●	●	●	●
	数字显示 Digital Display	浴温 · 转速 Bath Temp., Rotation Speed					
	不锈钢机架 SUS Frame	/	/	/	●	/	●
	大蒸发口径升级 * big Evaporation Neck upgrade *	/	/	○ F145			
7	防冲系统* Bumping System *	/	/	○	○	○	○
	冷阱系统* Cold Trap System *	/	/	○	○	○	○
8	卸瓶托架 Evaporating Flask Unload Handler	/	○	○	○	○	○
	蒸汽加热* Steam Heating *	/	○	○	○	○	○
	备选蒸发瓶 (可定制压槽款) Optional Evaporating Flask (baffles available at request)	○ 5L	○ 5L,10L,20L			○ 10L,20L,50L	
安全防护 Safety Features							
6	Ex防爆升级* Ex-proof upgrade*	电机及控制箱防爆改装、低功率密度、独立过温及防干烧保护、防爆级别ExdIIBT4/ExiICT6 Overall ex-proof modification, Dry Heat and Overheat Cut-off Protector, level ExdIIBT4/ExiICT6					

符号含义: / - 无, ● - 已配, ○ - 可选 (* - 此选配功能必须在工厂生产时组装, 不能单独另配)

注: 相关型号部分具体参数与标准机型有少量差异, 需另行确认。

Symbol Instruction: / - None, ● - Equipped, ○ - Optional (* - Only available when ordering of product, not for separate sale)

Note: Some specifications of relevant models may have differences from that of standard model. Details available at request.

旋转蒸发器

ROTARY EVAPORATOR

0.1-5L



快速泄压口

当过压冲料时，位于冷凝器顶部的泄压阀可快速对系统放气。

Vent Port

It can be used to vent system pressure quickly when encountering with sudden bumping.



锥磨口PTFE隔膜

锥磨口内衬PTFE隔膜，可减少锥口咬死，增加气密性。

PTFE Sleeve

PTFE Sleeve inside taper joint helps to prevent dead seizure, and increase sealing performance.



锥磨口锁瓶退瓶装置

可稳固锁定锥磨口连接，方便锥口退瓶。

Taper joint lock and release device

Enable a reliable lock of evaporating flask and offer convenience to taper joint flask release.



可升降浴锅

可根据需要高度平滑升降，避免玻璃部分移动，安全易操作。油浴最高可到180℃，设有独立电源开关，精确温控。

Lift Heating Bath

Prevents movement of glassware which is safe and easy to operate. Bath equipped with intelligent temp. controller. Heating temperature up to 99℃ for water bath and 180℃ for oil bath. Temp. wave within 2℃ or 0.2℃.

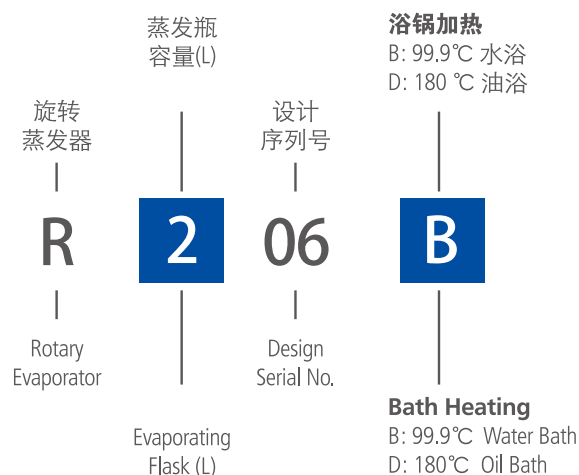


水浴锅罩(选件)

为您带来15%的增效和60%的节水，安全实用。

Lid for Water Bath (option)

Optional for water bath. Can increase evaporation efficiency by 15% and save bath water by 60%. Safe and useful.





基本参数 Parameters

型号 Model		R213B	R214B	R205B	R206B	R308B	R502B	R503B
相关型号	Relevant Model	/	/	/	R206D	R308D	R502D	R503D
蒸发瓶 (L)	Evaporating Flask (L)	0.5+1L/29, (2L/29)				3L / F50	5L / F50	5L / F50
收集瓶 (L)	Receiving Flask (L)	1L/S35		1L/29, 下出料 Bottom Discharge	1L/S35	2L/S35	3L/40, 下出料 Bottom Discharge	3L/S35, 下出料 Bottom Discharge
冷凝面积 (m²)	Condensing Surface (m²)	斜式 Diagonal 0.14	立式 Vertical 0.15			立式 Vertical 0.2	立式 Vertical 0.29	
转速(rpm)	Rotation Speed (rpm)	10-180		4-180	4-200	4-180	2-90	
最大蒸发速度 (H₂O)**	Max Evaporating Speed (H₂O)**	1.2L/h	1.2L/h	1.2L/h	1.2L/h	1.5L/h	2L/h	
到达真空	Reachable Vacuum Rate	< 133Pa (1.33mbar, 1 Torr)						
浴锅功率(kW)	Bath Power (kW)	1.3kW	1.3kW	1.3kW	1.3kW	1.3kW	2 kW	
静态温控范围及波动(℃)	Static Temp. Control Range & Wave (℃)	0-99 ± 2			0-99(180) ± 0.2			
浴锅尺寸(cm), 容量,材质	Bath Size, Capacity, Material	ø24x15, 6L, SUS304				ø26x15, 8L, SUS304	ø28x17, 10L, SUS304	
电源	Power	220V,1P, 50/60Hz						
整机尺寸(cm)	Dimensions (cm)	88x53x70H	62x33x82H			65x36x95H	84x36x110H	

** 最大蒸发速度与工艺参数设定, 配套设备性能及匹配度等有关。

Max evaporating speed is affected by operation settings and the performances and matching levels of supporting equipment.

功能配置 Functional Configurations

型号 Model		R213B	R214B	R205B	R206B	R308B	R502B	R503B
长效组合密封 PTFE Seal Assembly		●	●	●	●	●	●	●
PTFE下放料阀 PTFE Discharge Valve		/	/	●	/	/	●	●
3 锁退瓶装置 Flask Lock & Release Device		●	●	●	●	/	/	/
1 泄压口 Pressure Vent Port		/	/	/	●	/	/	/
机械真空表 Vacuum Meter		/	/	●	●	●	●	●
数字显示 Digital Display		浴温 Bath Temp.		浴温 · 转速 Bath Temp., Rotation Speed				
2 锥口PTFE隔膜 Taper Joint PTFE Sleeve		/	●	●	●	●	●	●
4 浴锅升降 Bath Lift		●	●	●	●	●	●	●
回流 Reflux		●	○	/	○	○	/	●
蒸汽测温口 Thermometer Port		/	/	/	/	/	/	●
5 水浴锅罩 Water Bath Lid		○	○	○	○	/	/	/
蒸发瓶转接口 Flask Port Adaptor		○	○	○	○	○	○	○
备选蒸发瓶 Opt. Evaporating Flask		100ml, 250ml, 2L				500ml, 1L, 2L	2L, 3L	2L, 3L

符号含义: / - 无, ● - 已配, ○ - 可选 (* - 此选配功能必须在工厂生产时组装, 不能单独另配)

注: 相关型号部分具体参数与标准机型有少量差异, 需另行确认。

Symbol Instruction: / - None, ● - Equipped, ○ - Optional (* - Only available when ordering of product, not for separate sale)

Note: Some specifications of relevant models may have differences from that of standard model. Details available at request.

真空控制器

Vacuum Controller

一台可以将溶剂回收率提高到99%的实用机器，尤其适合低沸点物料分离浓缩时的过程压力控制。

- 可设定、显示、自动控制目标系统的压力。
- 内置PTFE电磁阀气路控制
- 可同时控制真空泵启/停
- 配备起保护作用的缓冲瓶和过滤瓶

One equipment that can increase your solvent recycle rate up to 99%!
Vacuum Controller is widely applied in pressure control esp. in processes of collecting low boiling point solvents.

- Built-in electromagnetic valve to control target system pressure automatically.
- Equips power port for vacuum pump
- With buffer bottle and filter bottle for protection

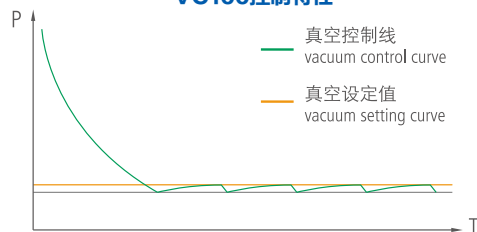


基本参数 Parameters

型号 Model	VC100C	
测量范围	Measure Range	0.1~105kPa
设定范围	Set Range	1.0~90kPa
分辨率	Resolution	0.1kPa
负载能力	Load Capacity	220V, 370W max
电源	Power	220V, 1P, 50/60Hz
整机尺寸(cm)	Dimensions (cm)	35x16x39H

注：不可抽取含固体粉尘气体！ Not for pumping of gas with powder or grain!

VC100控制特性



为什么要用一台真空控制器？ Why a Vacuum Controller?

蒸不出或者蒸得特别慢？
蒸出来了，但收不到？
突然冲料，前功尽弃？
真空泵又坏了！
工作环境都是难闻的有害气体，躲都躲不及？.....
SENCO为您提供的“**真空控制蒸发方案**”
能帮您免除这些烦恼。
让您的工作 **安全、高效、可重复**

Evaporation speed is slow?
Vaporized solvent cannot be well collected?
Sudden bumping destroys everything you collected?
Trouble again on vacuum pump!
Awful smell all around in lab? ...
SENCO's **“Rotary Evaporation Set”** under Vacuum Control will save you from these troubles.
We hope to bring you **safe, efficient, repeatable** operation experience with SENCO



安全、高效、可重复的 真空控制蒸发方案 Safe-Efficient-Repeatable Rotary Evaporation Sets



SENCO也提供中试20L⁺旋蒸配置方案 For 20L⁺ Evaporation Set: LX400 + R2006KB + VC100 + MPC301z

制冷循环泵 COOLING CIRCULATOR	+	旋转蒸发器 ROTARY EVAPORATOR	+	真空控制器 VACUUM CONTROLLER	+	水循环真空泵 WATER CIRCULATION VACUUM PUMP
- 提升回收率 - 节省大量冷却水资源 - With big cooling power; - Increase condensing efficient; - Save cooling water resource		- 优秀长效的密封耐腐蚀性能 - 提供温度，转速及真空度显示 - Strong in sealing and anti-corrosion performance; - Has display on rotation speed, temperature, and pressure		- 提升蒸发效率 - 提升回收率 - 减少溶剂气体外溢 - Improve efficiency of evaporating and receiving; - Reduce bumping risk; - Reduce vapor escaping; - Protect vacuum pump		- 保护真空泵 - 降低爆沸可能 - 维护保养简便 - Easy maintenance; - Resist certain corrosion

实测结果：使用SENCO 2L旋蒸配置方案来回收低沸点的试剂 **回收率 99%**

蒸发收集过程**高速，稳定**。系统真空压力在VC100C的自动控制下稳定维持，加热蒸发端和冷却收集端的产能均达到最大化。

Test Result Using SENCO "2L Rotary Evaporation Set" to remove solvents of low boiling point **Recycle Rate 99%**

Whole evaporation processes were **quick and stable**. System vacuum is well controlled by Vacuum Controller VC100C, which enables either heating (evaporation) or cooling (receiving) efficiency going to max.

Experimental Data	设定参数 Working Parameters Set			实验结果 Working Efficiency	
试剂 Solvent	冷却温度 Cooling Temp.	加热浴温 Bath Temp.	真空压力 Vacuum	蒸发速度 Evaporating Speed	回收率 Recycle Rate
乙醇 Ethanol-C ₂ H ₆ O	<5℃	70℃	10.2kPa	2.2L/hr	98.7%
丙酮 Acetone-C ₃ H ₆ O	<-2℃	54℃	37.7kPa	5.2L/hr	99.4%
氯仿 Chloroform-CHCl ₃	<-2℃	58℃	32.8kPa	6.0L/hr	99.0%

实验数据来自SENCO 2L旋蒸配置，实验条件：室温22℃，使用1000ml蒸发瓶，一次加料500ml。

欲获得最大蒸发量，加热温度应高于试剂沸点温度40℃以上。

The data is collected in test of 2L SENCO Rotary Evaporation Set. Condition: RT22℃, Rotation flask 1000ml, Charging Volume 500ml.

To get max vaporization speed, heating temp. shall be 40℃ higher than that of boiling temp. of solvent.

旋转蒸发器 - 常用选备件

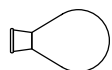
Parts & Accessories

更多选备件，敬请咨询

For more spare parts, contact

www.senco.cc

蒸发瓶 Evaporation Flask

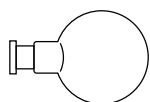


锥磨口-梨形
Taper Joint-Pear

100ml/29(24)
250ml/29(24)
500ml/29(24)
1L/29(24)
2L/29(24)

For R2, R3, R5

For R2 only

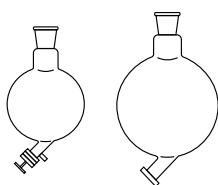


法兰口-圆形
Flange Joint-Round

3L/F50
5L/F50 | F95 | F120
10L/F95 | F120 | F145
20L/F95 | F120 | F145
50L/F120 | F145

For R3 ~ R5
For R5 ~ R20
For R10 ~ R50
For R20 ~ R50
For R50

收集瓶 Receiving Flask



锥磨口，下出料
Taper Joint, w/discharge
neck

1L, V6/29, Ø9
3L/F40, ST40

For R205
For R502



球磨口
Spherical Joint

1L /S35
2L /S35

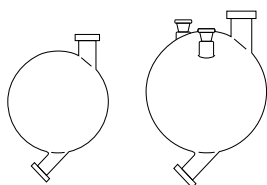
For R213, R214, R206
For R308



球磨口，下出料
Spherical joint,
w/discharge neck

3L/F40, S35

For R503

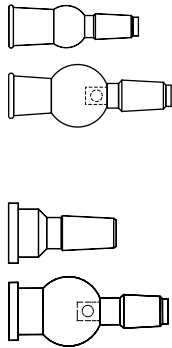


法兰口，下出料
Flange Joint,
w/discharge neck

5L/F50, F40
10L /F50, F40
10L /F60, F40x3
20L/F60, F40x3

For R1002B
For R2002B
For R2005K, R2006K
For R5005K, R5006K

转换接头 Joint Adaptor



描述	规格	备注
锥口转锥口 Taper to Taper	29 → 29 29 → 24 29 → 19	2L机型选用 Optional for 2L models
法兰转锥口 Flange to Taper	F50 → 29 F50 → 24	3L~5L机型选用 Optional for 3~5L models

其他 Others



导气轴 Vapor Shaft	ø25/29, ø25/24	2L以下机型使用 For 2L and below model use
	ø25	3~5L 型号使用 For 3~5L model use
	ø50/F60	10L以上型号使用 For 10L and above model use
进料阀 Charging Valves		根据主机型号配 Order according to model
放料阀 Discharge Valve	V10/F40	5~50L 机型使用 For 5~50L model use
主密封 Main Seal	25x35x7	5L以下机型使用 For 5L and below model use
	50x70x10	10L以上机型使用 For 10L and above model use
O-型圈套装 O-rings		根据主机型号配 Order according to model
厚壁真空管 Vacuum Pipe	ø8/ø15	真空管线用 For vacuum connection use
水浴锅罩 Lid for Water Bath		2L 旋转蒸发器水浴机型选用 Optional for 2L and below rotary evaporator use (for water bath only)
卸瓶架 Flask Unload Handler		20L 以上旋转蒸发器选用 Optional for 20L and above model use

服务、品质
SERVICE & QUALITY

短程蒸馏系统
SHORT PATH DISTILLATION

旋转蒸发器
ROTARY EVAPORATOR

夹套玻璃反应器
JACKETED REACTOR

多功能反应器
MULTIFUNC. REACTOR

真空配套
VACUUM PRODUCTS

冷热循环
COOLING / ATING

搅拌
STIRRING

开盖式夹层玻璃反应釜

CAP STYLE JACKETED REACTOR

0.25-100L

主体瓶无锥口，免除锥口咬死导致的瓶体破损
Overall flange connections, no taper joints on reaction head & body, free from joint seizure which damages glass.

开盖式夹层反应釜

容量(L)

设计序列号

FC

50

03

Cap Style Jacketed Reactor

Capacity (L)

Design SN

FC5003(50L)



釜盖配置(10L以上)

- 加料阀—全程清洁加料，无污染
- 温度计—直接测量物料温度
- 冷凝器—球口连接，易装减震
- 釜盖接口全面镜面法兰连接，配备SENCO快拆法兰压紧环。接口无咬死，玻璃不破损。

Flask Cap(10L & above)

- PTFE Charging Valve - Clean charge without gel pollution.
- Thermometer - Direct measurement
- Condenser - Ball joint connection, easy to assemble, with less vibration
- All taper joints upgrade to flanges, equipped w/SENCO Quick Press Ring, no seizure, no damage to glass necks.



快拆法兰压紧环

可提供高气密，高耐腐，装卸方便的法兰连接新体验。

PTFE进料阀

最新结构及材料设计，全程高清洁进料，高耐腐耐磨。

Flange Quick Press Ring

One-piece quick clip design. Offer new experience on easy, reliable, and high sealing for flanges' connection.

PTFE Charging Valve

New structure and material applied, is able to offer pure clean charging process and durable use experience.



PTFE底部侧放阀

无死角、无积液、最大放料口径 Ø20~32mm。预紧式结构可有效降低底阀过度旋顶而意外导致反应釜体破损的风险，对中试型反应釜尤为重要。

PTFE Bottom Side Discharge Valve

No dead angle. Maximum drift diameter ranges from Ø20~32mm for pilot models. Is able to decrease vessel crack risk from over-propelling the bottom valve.



镜面法兰加工工艺

SENCO法兰口使用精细冷磨抛光工艺，确保静态接口连接的气密性。

Mirror Polished Flange Processing Technic

SENCO glass flanges applies fine cold polish technic, which guarantees pressure tightness in static joint connections.

F40备用口 (10L+)

F40 Spare Neck (10L+)

F60/F95法兰搅拌口

Stirring Neck F60/F95

F40 法兰进料口

Charging Neck F40

F40 法兰测温口

Thermometer Neck F40

F40 法兰滴加口

Dripping Neck F40

S51球口冷凝口

Spherical Condensing Neck S51

F60/F80法兰固体加料口

Solid Feeding Neck F60/F80

含有部分选件
With optional parts

基本参数 Parameters

夹套反应釜10~100L
Cap Style Jacketed Reactor

标准机型 Standard Model		FC1003	FC2003	FC3003	FC5003	FC100-03
反应釜体(L)	Reaction Vessel Capacity (L)	10L	20L	30L	50L	100L
1 釜盖接口数	Port nos. on Cap	7	7	7	7	7
釜底出料通径 (mm)	Flush Diameter (mm)	Ø22	Ø22	Ø22	Ø22	Ø32
转速(rpm)	Rotation Speed (rpm)	60~560	60~560	60~560	20~400	20~280
额定转矩(Ncm)	Nominal Toque (Ncm)	160	160	160	390	475
电机	Motor	250W /120W-ex	250W /120W-ex	250W /120W-ex	200W (120W-ex)/3	200W (120W-ex)/5
搅棒直径(mm)	Dimeter of Stirring Rod (mm)	Ø12	Ø12	Ø12	Ø20	Ø20
电源	Power	220V,1P,50/60Hz				
整机尺寸(cm)	Dimensions (cm)	55x48x170H	55x48x190H	55x48x210H	110x60x230H	120x70x250H

功能配置 Functional Configurations

标准机型 Standard Model		FC1003	FC2003	FC3003	FC5003	FC100-03
变频调速	Frequency Conversion Speed Control	●	●	●	●	●
转速数显	Rotation Speed Display	●	●	●	●	●
PTFE组合密封	PTFE Seal Assembly	●	●	●	●	●
PTFE进料阀	PTFE Charging Valve	●	●	●	●	●
3 PTFE侧放阀	Bottom Side Discharge	●	●	●	●	●
2 滴加装置(L)	Drip System (L)	0.5L	0.5L	0.5L	5L	5L
固体加料口	Solid Feeding Port	● F60	● F60	● F60	● F80	● F80
测温管	Thermometer (tube)	●	●	●	●	●
机械真空表	Vacuum Meter	●	●	●	●	●
切向夹套进出液口	Tangent Style Jacket inlet/outlet	F40-M30x1.5	F40-M30x1.5	F40-M30x1.5	F40-M30x1.5	F40-M30x1.5
回流冷凝	Reflux Condensing	●	●	●	●	●
蒸馏-分层-收集	Distillation-Separation-Receiving	○ 3L	○ 5L	○ 5L	○ 10L	○ 20L
精馏收集*	Rectification-Receiving *	○	○	○	○	○
夹套调压装置 *	Jacket Pressure Release Device *	○	○	○	○	●
釜体泄压阀 *	Vessel Pressure Release Valve *	○	○	○	○	○
釜体抗流挡板 *	Reaction Vessel Baffler *	○	○	○	○	/
双层搅拌桨 *	Double Deck Impeller *	/	○	○	○	●
移动滑轮*	Lockable Wheels*	○	○	○	●	●
安全防护 Safety Features						
防爆/气动改制 *	Ex-proof / Air driven modification *	可联系洽谈 Proposal available at request				

符号含义: / - 无, ● - 已配, ○ - 可选 (* - 此选配功能必须在工厂生产时组装, 不能单独另配)

注: 相关型号部分具体参数与标准机型有少量差异, 需另行确认。

Symbol Instruction: / - None, ● - Equipped, ○ - Optional (* - Only available when ordering of product, not for separate sale)

Note: Some specifications of relevant models may have differences from that of standard model. Details available at request.

FC2~5L功能配置图

Functional configuration diagram (FC2~5L)

五口反应瓶盖

- 搅拌口 F60法兰口
- 冷凝口 ST24锥磨口
- 进料口 ST24锥磨口
- 滴加口 ST24锥磨口
- 测温口 M18螺纹口

5-port Reaction Head

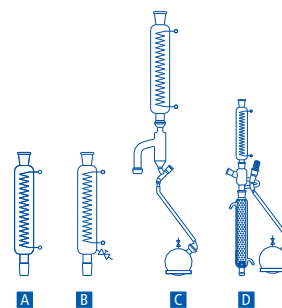
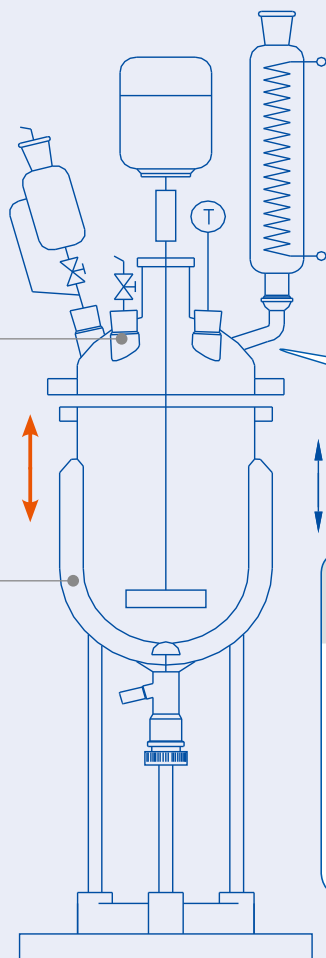
- Stirring Port F60 flange
- Condensing Port ST24 ground joint
- Feeding Port ST24 ground joint
- Dripping Port ST24 ground joint
- Thermometer Port - M18 thread joint

下开式夹层反应瓶

- 下开式设计，开瓶无需拆盖
- F180 反应瓶口，可随意更换2-5L反应瓶
- Ø10放料通径

Jacketed Reaction Flask

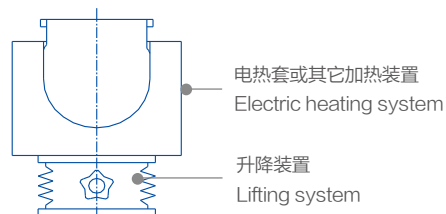
- Downward open without move of head and glass fittings
- F180 connection flange, can shift 2-5L reaction flasks
- Ø10 drift diameter



- A. 标配回流冷凝器
Std. Reflux Condenser
- B. 选配蒸回流两用冷凝收集系统
(Optional) Reflux/Distillation Condensing System
- C. 选配蒸馏-分液-收集系统
(Optional) Distillation-Separation-Receiving System
- D. 定制精馏收集系统
(Customized) Rectification-Receiving System

可选配/定制电加热反应系统 (无下出料)

Electric heating reaction system optional / available



FC0502(500ml)



FC202 (2L)



夹套反应釜 250ml~5L
Cap Style Jacketed Reactor

基本参数 Parameters

标准机型 Standard Model		FC0202	FC0502	FC102	FC202	FC302	FC502
反应釜体(L)	Reaction Vessel Capacity	250ml	500ml	1	2	3	5
釜底出料口径 (mm)	Flush Diameter (mm)	Ø10	Ø10	Ø10	Ø10	Ø10	Ø10
釜盖接口数	Neck No. on Cap	5	5	5	5	5	5
转速(rpm)	Rotation Speed (rpm)	60~720	60~720	60~720	20~460	20~460	20~460
额定转矩(Ncm)	Nominal Toque (Ncm)	32	32	32	180	180	180
搅棒直径(mm)	Dimeter of Stirring Rod (mm)	Ø6	Ø6	Ø6	Ø10	Ø10	Ø10
电源	Power	220V,1P	220V,1P	220V,1P	220V,1P	220V,1P	220V,1P
整机尺寸(cm)	Dimensions (cm)	30x35x90H		51x42x126H	51x42x120H	51x42x124H	55x42x124H

功能配置 Functional Configurations

标准机型 Standard Model		FC0202	FC0502	FC102	FC202	FC302	FC502
转速数显	Rotation Speed Display	●	●	●	●	●	●
PTFE组合密封	PTFE Seal Assembly	●	●	●	●	●	●
侧放式放料阀	Bottom Side Discharge	●	●	●	●	●	●
进料阀	Charging Valve	●	●	●	●	●	●
测温管	Thermometer Tube	●	●	●	●	●	●
小滴加(L)	Drip Funnel (ml)	100ml	100ml	100ml	250ml	250ml	250ml
切向夹层进液口	Tangent Style Jacke inlet/outlet	M18-Ø12	M18-Ø12	M18-Ø12	M18-Ø12	M18-Ø12	M18-Ø12
定制夹套转接口	Customized Adaptor for Jacket	○	○	○	○	○	○
回流冷凝	Reflux Condensing	●	●	●	●	●	●
蒸馏收集*	Distillation Receiving *	○ (0.25L)	○ (0.25L)	○ (0.25L)	○ (0.5L)	○ (1L)	○ (1L)
分液收集*	Separation & Receiving *	/	/	/	○	○	○
精馏收集*	Rectification-Receiving *	/	/	/	○	○	○
选配反应釜体 (L)	Optional Reactor Body (L)	/	/	/	/	/	2L~3L
安全防护 Safety Features							
防爆改制 *	Ex-proof Modification *	/	/	可联系洽谈 Proposal available at request			

符号含义: / - 无, ● - 已配, ○ - 可选 (* - 此选配功能必须在工厂生产时组装, 不能单独另配)

注: 相关型号部分具体参数与标准机型有少量差异, 需另行确认。

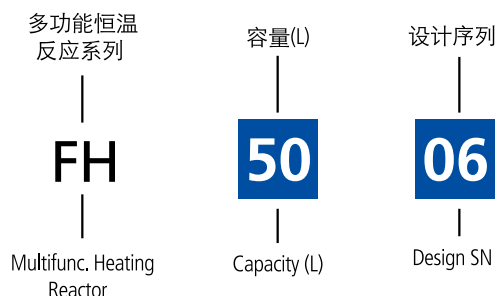
Symbol Instruction: / - None, ● - Equipped, ○ - Optional (* - Only available when ordering of product, not for separate sale)

Note: Some specifications of relevant models may have differences from that of standard model. Details available at request.

多功能反应器

MULTIFUNCTIONAL REACTOR

2-50L



FH5006 (50L)
w/optional functions (含选配)



- 1 倾斜式立体搅拌反应**
 - 可实现卓越的立体搅拌混合效果
 - 2 隔热机箱**, 内置智能温控加热系统
 - 最高浴温180℃, 数显浴温, 可选配冷却盘管用于反应物料冷却。
 - 配备**防干烧及过温保护装置**, 确保操作安全
 - 3 多功能反应瓶**
 - **主体全法兰口**连接设计, 消灭锥口咬死造成的主瓶体破损风险
 - 标配: 搅拌, 加料, 回流冷凝, 测温, 多功能大口及无积液下出料功能;
 - 可拓展丰富选配功能, 如: 滴加、充气、取样、蒸馏、精馏、分液、增加机动口等。
 - 4 滴加功能**
 - 5 3孔拓展盖拓展大口功能**
 - 6 冷却分液功能**
 - 7 蒸馏及收集功能**
 - 8 取样功能**
 - 9 可改选增高底座, 提高放料高度**
-
- 1 Patent Incline Stir** (bidirectional)
 - Incomparably perfect stereo-stir performance.
 - 2 Adiabatic Stand** with Intelligent Heating System inbuilt
 - Max heating temp. up to 180℃. Digital display of bath temp. and set temp. Can equip cooling coil for bath chilling.
 - Equips **Over-heat & Dry-heat protectors**, ensure safe operation of heating bath.
 - 3 - Overall flange connection design**, eliminate taper joint seizure which may damage reaction flask.
 - Configured: stirring, feeding, reflux condensing, temp. measuring, multi-purpose wide opening and non-liquid-accumulation bottom discharge function;
 - Is able to extend more functions like: dripping, bubbling, sample pickup, distilling, rectifying, liquid separation, etc.
 - 4 Drip Function**
 - 5 3-hole wide neck cap** extending more functions on the neck.
 - 6 Liquid Separation**
 - 7 Distilling & Receiving**
 - 8 Sample Pickup**
 - 9 Underlay Base** optional to enable one-time discharge

特性 FEATURE

- 斜式立体搅拌，固液充分混合
- 标配加热系统，节省额外开支
- 功能选件丰富，满足灵活配置
- Incline STEREO-STIR, stir solid-liquid mixture sufficiently
- In-built Heating System, save extra budget
- Rich functional accessories, allow flexible configuration



服务、品质
SERVICE & QUALITY

短程蒸馏系统
SHORT PATH DISTILLATION

旋转蒸发器
ROTARY EVAPORATOR

夹层玻璃反应器
JACKETED REACTOR

多功能反应器
MULTIFUNC REACTOR

真空配套
VACUUM PRODUCTS

冷热循环
COOLING / ATING

搅拌
STIRRING

20L+机型倾斜式多功能反应器 (专利号: ZL02216921.0) Incline Stir Multifunctional Reactor

功能	夹层玻璃反应器 Jacketed Reactor	V.S.	SENCO倾斜式多功能反应器 SENCO Incline Stir Multifunctional Reactor
搅拌效果 Stirring	● 传统垂直搅拌，搅拌效果一般。 ● SENCO的FJ-30L机型具自动正反转功能，改善了搅拌质量。 ● Traditional vertical stir, normal stirring effect. ● SENCO 30L+ jacketed reactor equipped with bidirectional stir function. Stirring effect improved by some.		● 倾斜式强力立体搅拌，外加自动正反转功能，彻底打乱搅拌漩涡，形成立体多维水流，反应效率成倍提高，对不同密度物料的搅拌效果更为出众。 ● Incline power stir plus bidirectional stir function, break whirlpool from single directional vertical stir completely. Stir effect is wonderful under stereo water current created, esp. for mixed reactants of different density.
冷热系统 Heating/ cooling	⊕ 当反应需要快速加热和冷却时，可配备冷热循环一体机，循环液无需切换，操作较方便。 – 夹层反应器自身不配备冷/热系统，需另行选配冷/热循环设备。 ⊕ To equip one integrated heating and cooling circulator enables both heating and cooling function with no need to shift circulating liquid. – Jacketed reactor is not equipped with heater/cooler, need to purchase additionally.		⊕ 标配已含有180℃智能恒温油浴加热系统，无需额外配置热源。 多种制冷方式选择： ⊕ – 可选配冷却盘管，通入冷却液或制冷剂制冷。 – 在浴锅内直接通入液氮快速制冷。 ⊕ Equipped with 180℃ intelligent heating system, no need to purchase additionally. ⊕ Cooling Function available thru: – To choose cooling coil (optional part) for injecting cooling liquid or refrigerants. – To fill in bath with liquid nitrogen directly.
观察便利 Convenience in observation	⊕ 全透明反应瓶体，实验观察角度没有限制 No limitation to watch angle		● 瓶体1/2在浴锅内，可通过瓶体上部分俯视观察瓶内反应情况。 ● 1/2 reaction flask sits in bath pot. Reaction process can be observed from upside of reaction flask.
功能扩展 Function Expansibility	● 功能选件相对较少。 - Optionals are comparatively fewer.		⊕ 功能选件丰富，可扩展性强。 Rich optional parts available for various function expansions at lower cost.
破损风险 Risk in glass breakage	● 夹层桶形玻璃反应瓶内应力大，破损风险相对较大，使用和运输风险高。 ● Higher risk because of higher stress existing in jacketed glass reaction flask. Easy to crack during transportation and operation.		⊕ 单层球体玻璃反应瓶内应力小，破损率小，更经济更安全。 Less because lower stress exists in round reaction flask. More economic and safer during transportation and operation.
局限性 Limitation	● 瓶体抗冷热急变能力稍差。 ● 夹套内不能承受过高高压，否则易产生安全事故。 ● 深冷操作需选购3夹层反应器，以防止外表面结霜 ● Weaker in resisting to sudden temp. change between hot and cool. ● Jacketed layer is not able to bear much pressure inside. ● For deep cooling, need to choose multi-jacket reactor to prevent frosting outside.		● 热交换能力相对稍弱。 ● 深冷操作需选购保温型机种，免除结霜烦恼。 ● Comparatively slower in heat exchange rate ● For deep cooling, need to choose adiabatic model to prevent frosting.

FH50 功能配置图

Functional configuration diagram

标配 Standard Config.

*选配 Optional Config.

SENCO原创专利倾斜式反应器

具变频调速自动正反转

Senco patent technology Incline stirring type reactor
Equipped with FC speed control, can perform bi-directional stir.

F95法兰口,配SENCO特制PTFE密封盖

F95 flange neck equipped with Senco bearable PTFE stirring seal assembly.

F40法兰口, 配加料阀

Charging Valve Neck (F40)

F40法兰口配玻璃温度计套管

Thermometer Neck (F40)

F120多功能大口, 手可伸入。标配ST24x3 三口拓展盖

Wide F120 flange opening, allow hand to stretch in.
Equips ST24x3 Neck Expansion Cap

隔热机箱, 内置智能温控加热系统

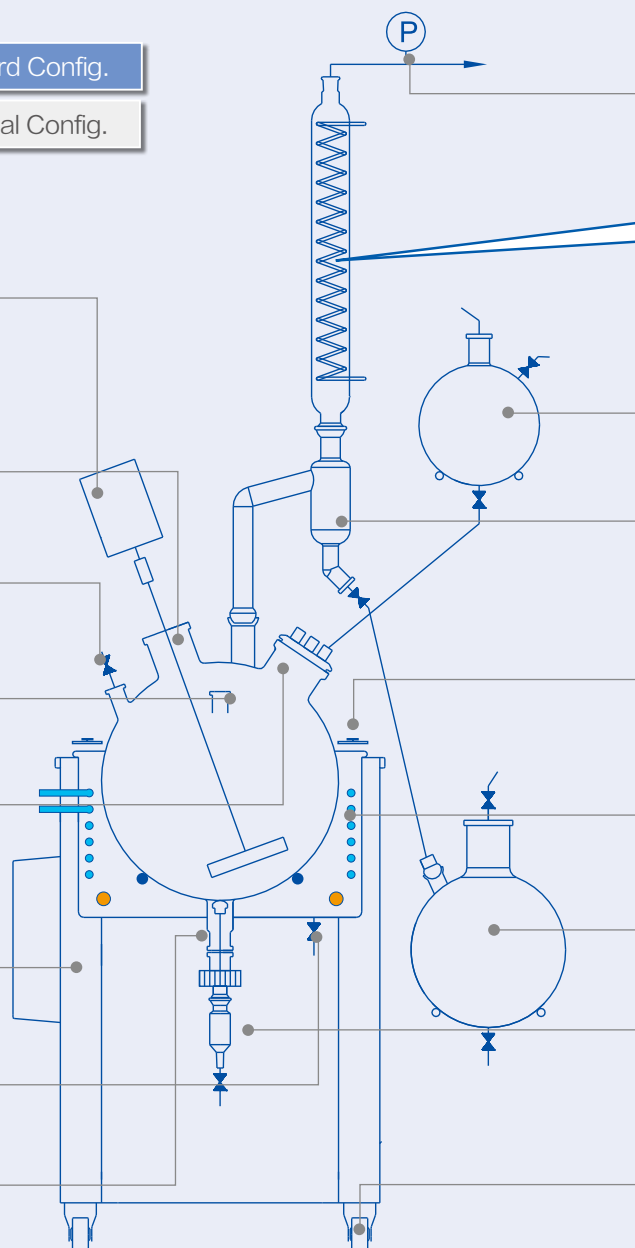
Adiabatic Stand, with in build intelligent heating control system

不锈钢浴锅具放液阀门

SUS Bath Pot with drain valve

SENCO无积液PTFE直放阀(可更换为侧放阀)

Senco PTFE Flush Discharge Valve (no dead angle),
can change to Side Discharge Valve at request.



FH200, FH501



FH2001 (20L)
(w/rectification
column)



FH5006-EX(50L)



真空表
Vacuum Meter

*5L滴加系统带负压加料阀门
Drip System with feeding valve

*带刻度分液器
* Liquid Separator with scale

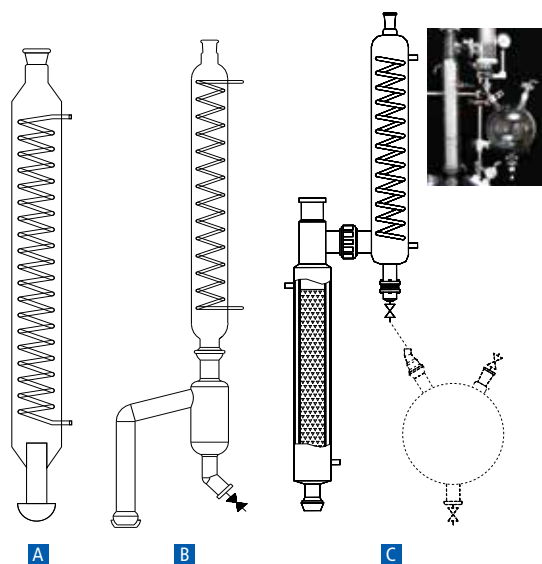
*不锈钢浴锅盖
* SUS bath cap

*纯铜冷却盘管,冷却面积0.6M²
* Copper cooling coil. Cooling surface 0.6m²

*10L收集系统,带放料阀
Receiving System w/dischage valve

*可卸式取样瓶
*Removable Sampling Bottle Set

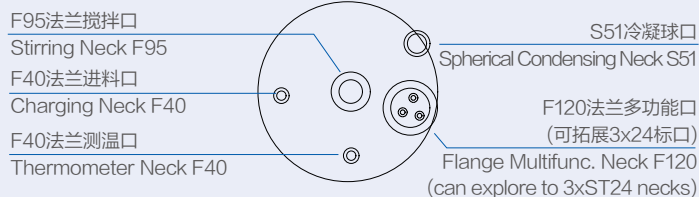
*移动滑轮或*200mm增高底盘
* Lockable Wheels, or
* Underlay Base (Height 200mm)



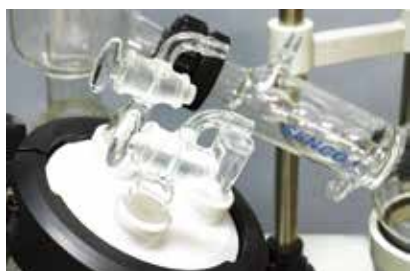
A S51球口, 配回流冷凝器
S51 ball joint equipped with Reflux Condenser

B 选配分液器, 实现蒸馏-分液-收集功能
(Optional) Add one liquid separator to achieve
distillation-separation-receiving function.

C * 选配精馏冷凝-收集系统
* (Optional) Rectification-Condensing-Receiving
system



可增加机动接口。Extra neck on cap can be modified at request.



9 玻璃/四氟三口拓展盖

可在反应瓶大口上选配, 用以灵活增加接口, 拓展使用功能。

Glass/PTFE 3-hole Neck Expansion Cap

Optional for equipping on wide neck. Enable to add more necks on reaction flask flexibly so to extend more add-ins.



10 带刻度的分液装置 (选配)

常用于对混合液体馏出物进行水油分层及收集。

Scaled Liquid Separator (Optional)

To receive and separate mixed distillates.



11 冷却盘管 (选配)

可选配安装于加热浴锅内, 通入冷却液即可实现制冷功能。

Cooling Coil (Optional)

Can be installed in heating bath and perform chilling function by getting through cooling liquid.

服务、品质
SERVICE & QUALITY

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真空配套
VACUUM PRODUCTS

冷却/循环
COOLING / ATING

搅拌
STIRRING

基本参数 Parameters

标准机型 Standard Model		FH201	FH501	FH2006	FH5006
反应瓶(L)	Reaction Flask (L)	2L	5L	20L, 下出料 Bottom Discharge	50L, 下出料 Bottom Discharge
底部出料口径(mm)	Flush Diameter (mm)	/	/	Ø22	Ø22
瓶口数	Neck No. on Reaction Flask	5	5	7+1	7+1
转速(rpm)	Rotation Speed (rpm)	60-1300	60-720	60-560	60-560
额定转矩(Ncm)	Nominal Toque (Ncm)	32	80	160	160
搅拌直径(mm)	Diameter of Stirring Rod (mm)	Ø6	Ø10	Ø12	Ø12
浴锅功率(kW)	Bath Power (kW)	1 kW	1.4kW	2kW	4kW
静态温控范围及波动(°C)	Static Temp. Control Range & Wave (°C)	0-180±0.2	0-180±0.2	0-180±0.2	0-180±0.2
浴锅尺寸(cm), 容量, 材质	Bath Size (cm), Capacity, Material	Ø24x15, 5L SUS304	Ø28x20, 11L SUS304	Ø45x27, 40L SUS304	Ø55x32, 70L SUS304
电源	Power	220V 1P, 50/60Hz	220V 1P, 50/60Hz	220V 1P, 50/60Hz	220V 1P, 50/60Hz
整机尺寸(cm)	Dimensions (cm)	36x30x90H	39x33x105H	60x60x170H	70x70x205H

功能配置 Functional Configurations

型号 Model		FH201	FH501	FH2006	FH5006
变频调速	Frequency Conversion Speed Control	/	●	●	●
数字显示	Digital Display	温度 · 转速 Bath Temp., Rotation Speed			
PTFE组合密封	PTFE Seal Assembly	●	●	●	●
直放式放料阀	Flush Discharge Valve	/	/	●	●
侧放式放料阀	Side Discharge Valve	/	/	○	○
加料阀	Charging Valve	● glass valve	● glass valve	● PTFE valve	● PTFE valve
测温管	Temp. Measure Neck	●	●	●	●
真空表 *	Vacuum Meter *	○	○	●	●
倾斜式立体搅拌	Inclined Stereo Stir	/	/	●	●
自动正反搅拌 *	Auto CW/CCW Stir *	/	/	○	○
浴锅放液	Bath Drain	●	●	●	●
F120多功能口	Multi-functional Wide Neck (F120)	/	/	●	●
3口拓展盖	3-hole Neck Expansion Cap	/	/	●	●
回流冷凝	Reflux Condensing	●	●	●	●
蒸馏收集*	Distillation Receiving *	○ (0.5L)	○ (1L)	○ (5L)	○ (10L)
液体分层*	Liquid Separation *	/	/	○	○
精馏收集*	Rectification-Receiving *	/	/	○	○
小滴加(赠送)	Drip Funnel (Present)	0.25L	0.25L	0.5L	0.5L
5L滴加系统	Drip System (5L)	/	/	○	○
冷却盘管*	Cooling Coil *	/	/	○	○
浴锅盖	Bath Cap	/	/	○	○
取样瓶	Sampling Bottle	/	/	○	○
低速增压*	Low Speed Power Stir *	/	/	○	○
不锈钢机座	SUS Stand	/	/	●	●
增高底座(20cm)	Underlay Base (20cm)	/	/	○	○
浴液搅拌*	Bath Liquid Stir*	/	/	○	○
浴锅隔热	Bath Heat Isulation	/	/	●	●
移动滑轮	Lockable Wheels	/	/	●	●
安全防护 Safety Features					
独立过温保护	Independent Overheat Cut-off Protection	/	/	●	●
防干烧保护	Dry Heating Protection	/	/	●	●
防爆/气动改制 *	Ex-proof / Air driven modification *	可联系洽谈 Proposal available at request			

符号含义: / - 无, ● - 已配, ○ - 可选 (* - 此选配功能必须在工厂生产时组装, 不能单独另配)

注: 相关型号部分具体参数与标准机型有少量差异, 需另行确认。

Symbol Instruction: / - None, ● - Equipped, ○ - Optional (* - Only available when ordering of product, not for separate sale)

Note: Some specifications of relevant models may have differences from that of standard model. Details available at request.

真空过滤器

Vacuum Filter

配有180大口径PTFE滤板，配合可丢弃滤纸一同使用。使用者可将物料倒入或抽入抽滤瓶，进行快速负压抽滤。收集瓶配置PTFE放料阀和抽放气阀，操作方便。

Equipped with removable 180mm wide PTFE filtering plate, to work with different mesh filtering paper, user can perform efficient suction filtration. Material can be either poured in or be sucked in the suction flask and be filtered and collected in a 20L receiving flask which has PTFE discharge valve for drain.

基本参数 Parameters

型号	VF2001	
进料方式	Feeding Method	倒入或吸入 Pour in or Suck in
抽滤瓶 (L)	Suction Flask	3L
收集瓶 (L)	Receiving Flask	20L
FEP 真空吸管	FEP Vacuum Pipe	OD12mm/ID10mm
过滤支承板	Filter Plate	Ø180 PTFE 滤板支承，均布 Ø2.5mm 细孔，配合各目数滤纸使用 Ø180 PTFE plate with Ø2.5mm small holes equispaced, can work with filtering paper with various mesh.
带滤板的陶瓷布氏漏斗	Ceramic buchner funnel w/filter disk	○
整机尺寸 (cm)	Dimensions (cm)	45x45x150
特点	Features	倒入吸入两用；过滤直径大；PTFE 滤板承压大；可移出清洗；过滤目数可调。 Bigger filtering diameter; with bigger pressure bearing ability; filtering plate is removeable for wash; filtering mesh changeable.

常温反应分液器

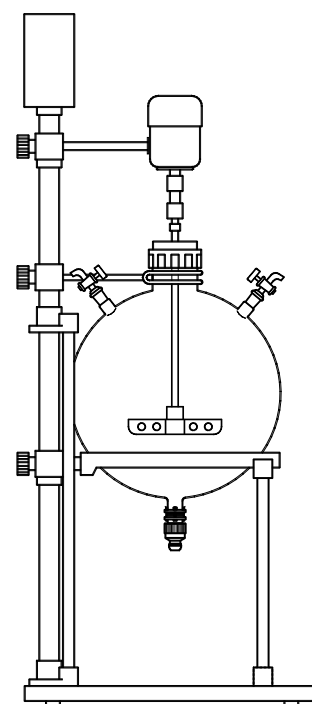
Room Temperature Reactor/Separator

用于将多种物料混合进行化学或物理反应,而后对新生成的物料根据比重的不同进行分液提取。本设备可在真空状态下提供快速匀质的反应/收集效果。根据使用需要，本机亦可单独作为分液器或常温反应器使用。

To mix two or more samples under vacuum and RT to perform quick chemical or physical reaction. Is able to separate reactants of different weight after reaction process. Can be used as RT reactor or Reactant Separator according to operation needs.

基本参数 Parameters

型号 Model		FY20	FY50
反应瓶容量(L)	Reaction Flask (L)	20	50
搅拌转速(rpm)	Stirring Speed (rpm)	60-560	60 - 560
转矩(Ncm)	Torque (Ncm)	160	160
电源电压(V)	Power (V)	220,1P	220,1P



服务、品质
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多功能反应器
MULTIFUNC. REACTOR

真空配套
VACUUM PRODUCTS

冷却/循环
COOLING / ATING

搅拌
STIRRING

相关配套 COMPLEMENTARIES PRODUCTS

冷热源 COOLING/HEATING



冷却水循环泵
COOLING CIRCULATOR



冷热一体循环泵
HEATING/COOLING
CIRCULATOR

P.33-34

冷热源 COOLING/HEATING



真空源 VACUUM SUPPLY



P.32



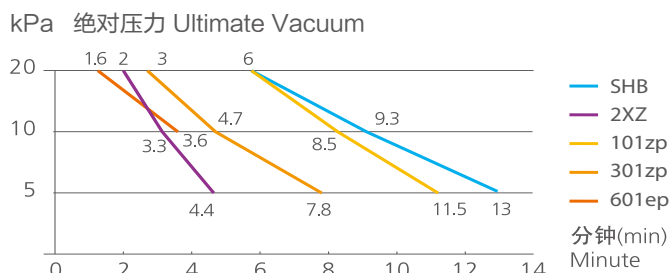
真空过滤器
VACUUM
FILTER

P.30

过滤 FILTERING

真空泵 Vacuum Pump

各真空泵在20L旋蒸上的抽吸能力
Pump Performances on 20L Rotary Evaporator



SHB



2XZ-2



301z



E034

基本参数 Parameters

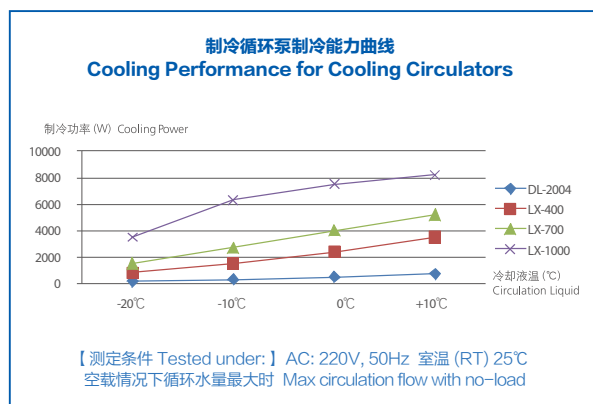
真空压力单位换算: 1百帕(hPa) ≈ 1毫巴(mbar) ≈ 0.75托(Torr)/0.75毫米汞柱(mmHg)

型号 Model	SHB	2XZ-2
	水循环真空泵 Water Circulation Vacuum Pump	旋片式真空泵 Vane Pump
配套旋蒸 Fit for Rotary Evaporator	2L-10L	20L-50L
极限真空度 Ultimate Vacuum Rate	2.6kPa (26mbar / 20 torr)	6.7×10^{-2} Pa
最大抽速 Max Pumping Speed	10L/min × 2	120L/min
额定功率 Rated Motor Power	220V 1P, 180W	220V 1P, 370W
整机尺寸(cm) Dimensions (cm)	39x32x45H	52x17x28H
使用特点 Features	较耐腐, 保养简便 Simple maintenance, Can resist certain corrosion.	真空度高, 抽速快; 不宜抽取腐蚀性气体或大量蒸汽 High vacuum rate, fast pumping speed; Not for pumping of corrosive gas or quantity of steam.
备注 Remarks	不锈钢泵, 双表双头 S.S. Pump, two pump nozzles with vacuum meters	Senco经销 The model is dealt by Senco

型号 Model	101z	301z	E034	601e
	化学隔膜泵 Chemical diaphragm pump			
配套旋蒸 Fit for Rotary Evaporator	1L-10L	2L-20L	2L-20L	10L-50L
极限真空度 Ultimate Vacuum Rate	800Pa (8mbar / 6 torr)	800Pa (8mbar / 6 torr)	800Pa (8mbar / 6 torr)	7.5kPa (75mbar / 52 torr)
最大抽速 Max Pumping Speed	16L/min	38L/min	33L/min	63L/min
额定功率 Rated Motor Power	220V 60W	220V 180W	220V 110W	220V 180W
整机尺寸(cm) Dimensions (cm)	28x42x24H	48x33x30H	35x19x22H	49x33x30H
使用特点 Features	真空能力好, 全耐腐, 无需保养; 不宜抽取含固体粉尘气体! Anti-corrosion, Little maintenance job required; Not for pumping of gas with powder or grain!			
备注 Remarks	德、美品牌, Senco经销 The models are of German/US Brands, dealt by Senco			

单冷/单热循环泵

Cooling/Heating Circulator



用于提供低沸点物料蒸发时冷凝用液。制冷量大，可与SENCO产品相配套。

Providing cooling circulation liquid for Rotary Evaporators and Reactors. Has big cooling capacity and is compatible with SENCO products.

部分型号	Partial Model	DL-2004	LX-400N	LX-700N	LX-1000N
循环方式及储液量	Circulation Type & Storage Volume	开放式 4L open type	封闭式 25L closed system	封闭式 30L closed system	封闭式 35L closed system
温控范围(℃)	Temp. Set Range (℃)	-20℃~RT	-25℃~RT	-25℃~RT	-25℃~RT
制冷量 **	Refrigeration Capacity	500W@0℃	2400W@0℃	4000W@0℃	7500W@0℃
最大循环流量(L/min), 压力(bar)	Max Flow Rate (L/min), Pressure(bar)	8L, 0.3bar	20L, 1.5bar	35L, 1.5bar	35L, 1.5bar
SUS外壳	SUS housing	●	●	●	●
高级触摸屏控(含曲线及数据记录)	Advanced screen touch control (with curves and data record func.)	/	●	●	●
电源	Power	220V 1P, 50Hz	220V 1P, 50/60Hz	220V 1P, 50/60Hz	380V 3p, 50/60Hz
整机尺寸(cm)	Dimension (cm)	22x51x55H	40x60x115H	50x68x135H	55x68x145H
配套系统	for system capacity	1-5L	10-20L	30-50L	50-100L
安全防护 Safety Features					
过载保护	Overload Protection	●	●	●	●
过热保护	Over-temp. Protection	●	●	●	●

** 制冷量在室温25℃下测定。Cooling Capacity is measured under room temperature 25℃.



对玻璃、金属反应釜、生物反应器等进行升降温、恒温控制，尤其适合在反应过程中有需热、放热过程的控制。Especially good at control of heat absorbing or releasing process. Can be applied in working with glass reactors, metal reactors, bio-reactors to achieve accurate temperature control.

含快速降温功能 With quick cooling function

部分型号	Partial Model	DH10-100	DH10-200	UC1820	UC5020	UCA020
循环方式	Circulation Type	开放式 open system	开放式 open system	封闭式 close system	封闭式 close system	封闭式 close system
温控范围(℃)	Temp. Set Range (℃)	50-100℃	50-200℃			
加热功率(kW)	Heating Power (kW)	2.2kW	2.2kW	2kW	5.5kW	10kW
冷却能力@65℃	Cooling Power@65℃	/	/	0.6kW	1.8kW	3.4kW
最大循环流量(L/min), 压力(bar)	Max Flow Rate (L/min) Pressure(bar)	19L, 0.8bar	19L, 0.8bar	10L, 1.5bar	35L, 2bar	50L, 2bar
SUS外壳	SUS housing	●	●	○	○	○
高级触摸屏控(含曲线及数据记录)	Advanced screen touch control (with curves and data record func.)	/	/	○	○	○
电源	Power	220V 1P, 50/60Hz			380V 3P, 50/60Hz	
整机尺寸(cm)	Dimensions (cm)	22x41x48H	22x41x48H	35x56x75H	40x60x115H	50x55x80H
配套系统	for system capacity	1-10L	1-10L	1-10L	10-50L	100L
安全防护 Safety Features						
过载保护	Overload Protection	●	●	●	●	●
过热保护	Over-temp. Protection	●	●	●	●	●
防爆升级	Ex-proof upgrade	/	/	○	○	○

冷热一体循环器

Dynamic Temperature Control Circulator (Thermostat)

封闭式循环设计，温控范围-25~200℃，无需更换导热介质使用，介质寿命长。可精确控制系统夹套温度，或直接控制物料温度。具有多重保护功能，系统运行安全可靠。可选配丰富通讯接口及软件，实现过程编程，记录，及远程控制功能。

Close circulation design, wide temperature control range (-25~200℃), no need to change heat-conduct medium during operation. Have accurate temperature control on system jacket or reactant directly. With various internal protection design, operation is safe and reliable. Process programming, record, and remote control etc. available as options.



HR系列 HR series



SD系列 SD Series



基本参数 Parameters

部分型号 Partial Model		SD320	HR35N	SD235	HR70N	SD270
循环方式	Circulation Type	封闭式 closed system				
温控范围(℃)	Temp. Set Range (℃)	-25~180℃	-25~200℃	-25~200℃	-25~200℃	-25~200℃
温控精度	Control Accuracy	±1℃	±0.5℃	±1℃	±0.5℃	±1℃
温控选择	Control options	物料、夹套 Material, Jacket	夹套 Jacket	物料、夹套 Material, Jacket	夹套 Jacket	物料、夹套 Material, Jacket
加热功率(kW)	Heating Power (kW)	2kW	3.5kW	3.5kW	7.5kW	7kW
冷却能力@-5℃	Cooling Power@-5℃	0.9kW	3kW	3kW	6.6kW	6.6kW
最大循环流量(L/min), 压力(bar)	Max Flow Rate (L/min), Pressure(bar)	10L, 0.8bar	35L, 2bar	35L, 2bar	50L, 2bar	50L, 2bar
彩色触摸屏	Color touch panel	●	○	●	○	●
编程	Programming	●	/	●	/	●
接口尺寸	Joint Size	DN-15 / M24x1.5	DN-20 / M30x1.5	DN-20 / M30x1.5	DN-20 / M30x1.5	DN-20 / M30x1.5
外壳材质	Shell Material	SUS	冷轧板喷塑 Cold Rolled Plate with plastic spray	SUS	冷轧板喷塑 Cold Rolled Plate with plastic spray	SUS
电源	Power	220V 1P, 2.9kW	380V 3P, 5.5kW	380V 3P, 6kW	380V 3P, 10kW	380V 3P, 11kW
选配电源	Power customization	220V-3p, 440-480V-3p				
整机尺寸(cm)	Dimensions (cm)	40x60x115H	55x68x145H	50x68x145H	55x68x145H	55x68x145H
以太网接口, 电脑操作软件	PC Software & Ethernet interface	○	/	○	/	○
温度扩展	temp. control range extension	/	/	-25~250/300℃	/	-25~250/300℃
水冷替代风冷	water cooling instead of fan cooling	/	/	○ 800L/H, 1.5~4bar	/	○ 1200L/H, 1.5~4bar
配套系统	for system capacity	1~5L	10~30L	10~30L	50~100L	50~100L
安全防护 Safety Features						
过载保护	Overload Protection	●	●	●	●	●
过热保护	Over-temp. Protection	●	●	●	●	●

** 更多型号可根据客户确定的旋蒸，反应系统，及需要功能来推荐配置。

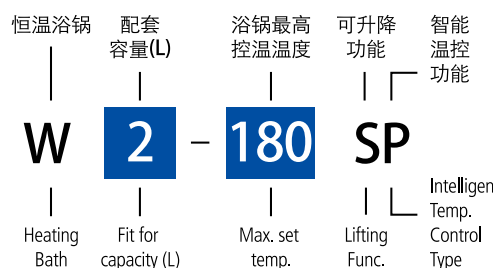
More suitable models can be recommended after customer system (rotary evaporator, reactor system, etc.) & operation needs confirmed.

数控恒温浴锅

Heating Bath

旋转蒸发器专用浴锅，可广泛用于各种反应加热。锅体可自由升降，锅体、加热圈均为304不锈钢，探头内置式。浴锅温度智能控制，最高浴温180℃。10L以上高温油浴具有自动过温保护功能。

- Bath liftable
- SUS Pot and Heater
- Intelligent Temperature Control
- Water & Oil Bath Available
- Oil bath of 10L and above has Overheat Protect Function



W2-100SP



W5-100SP



W20-100SP

基本参数 Parameters

标准机型 Standard Model		W2-100SP	W3-100SP	W5-100SP
相关型号	Relevant Model	W2-180SP	W3-180SP	W5-180SP
静态温控范围/波动(℃)	Static Temp. Control Range/Wave (℃)	(RT+5)~99/180, ±0.2	(RT+5)~99/180, ±0.2	(RT+5)~99/180, ±0.2
加热功率(kW) (水浴/油浴)	Heating Power (kW) (water/oil bathing)	1.3	1.3	2
浴锅尺寸, 容量, 材料	Bath Size (cm), Capacity(L), Material	Ø24x15H, 6L	Ø26x15H, 8L	Ø28x17H, 10L
		SUS304	SUS304	SUS304
升降(mm)	Lift Distance (mm)	110	110	120
电源	Power	220V, 7A	220V, 7A	220V, 10A
整机尺寸(cm)	Dimension (cm)	35x33x24	36x35x24	40x38x30

标准机型 Standard Model		W10-100SP	W20-100SP	W50-100SP
相关型号	Relevant Model	W10-180SP	W20-180SP	W50-180SP
静态温控范围/波动(℃)	Static Temp. Control Range/Wave (℃)	(RT+5)~99/180, ±0.2	(RT+5)~99/180, ±0.2	(RT+5)~99/180, ±0.2
加热功率(kW) (水浴/油浴)	Heating Power (kW) (water/oil bathing)	3/2	5/3.6	9/6
浴锅尺寸, 容量, 材料	Bath Size (cm), Capacity (L), Material	Ø35x25H, 22L	Ø45x27H, 40L	Ø55x32H, 70L
		SUS304	SUS304	SUS304
升降(mm)	Lift Distance (mm)	180	180	180
电源	Power	220V, 20A	220V, 30A	9kW: 380V 3P, 20A / 6kW: 220V
整机尺寸(cm)	Dimension (cm)	56x48x60	57x60x62	76x70x67
防爆改制 *	Ex-proof Modification *	可联系洽谈 Proposal available at request		

** 油浴及防爆机型加热功率比水浴机型降低30% Heating power of oil bathing or ex-proof model is 30% lower than that of water bathing

** 10L以上油浴及防爆机型配备防干烧, 独立过温保护系统 10L and above oil bathing or ex-proof model equips dry heat protector, independent over-heat protector.

搅拌器 Overhead Stirrer



基本参数 Parameters

型号 Model		S212-40	S212-90	S312-40	S312-90	S312-120	S312-250	S312-250H	S312-200P
主要特性	Main Feature	恒速 Constant Speed		数显 · 恒速 Digital Display, Constant Speed		数显 · 变频 Digital Display, Frequency Conversion		数显 · 高速 Digi-Display, High Stirring Speed	数显 · 强力 Digital Display, Power Stirring
电机	Motor Type	单相交流感应电机 Single Phase AC Induction Motor				三相交流感应电机 3-phase AC Induction Motor			
电机功率(w)	Motor Power	40	90	40	90	120	250	250	200
转速(rpm)	Rotary Speed	60-1300				60-1700		120-4000	20-400
额定转矩(Ncm)	Nominal Toque (Ncm)	32	71	32	71	80	162	58	340
转夹头(mm)	Collet	Ø6				Ø2-10	Ø2-10	Ø2-13	Ø2-13
有效高度(cm)	Valid Height	60				53			45
底盘(cm)	Base	弧形 Curve				33×35, SUS304	33×42, SUS304		
搅拌容量(L)	Stirring Capacity	H2O, 1-3L	H2O, 2-5L	H2O, 1-3L	H2O, 2-5L	H2O, 10L	H2O, 20- 50L	H2O, 10L	100,000 cst, 5L
电源	Power	220V, 1P, 50/60Hz				220V, 1P, 50/60Hz			
整机尺寸(cm)	Dimension	40x28x85				40x33 x100H	50x33x100H		
供选配 搅拌棒形状	Available Stirrer Shape	A				B, C, E	B, C, E	B	D, E

基本参数 Parameters

为了达到合适的搅拌效果，请根据搅拌溶液的特性、转速、容器形状及容量来选配或定制。搅拌棒长度应尽量短，容器瓶口应有支撑，以减少搅拌时产生的抖动。

To ensure stirring effect, blade shape shall be chosen or customized according to solution nature, capacity, opr. speed, vessel shape, etc.

搅拌棒形状 Stirrer Shape	锚式搅拌棒 Anchor (A)	旋片式搅拌棒 Vane (B)	大叶搅拌棒 Leaf (C)	弧形搅拌棒 Curve (D)	山形搅拌棒 Square (E)
搅拌头 Stirrer					
材质 Material	PTFE	PTFE	PTFE	SUS304	SUS304
轴径/翼径 (mm) Dia. of Rod/ Impeller (mm)	Ø6/Ø90	Ø10/Ø74	Ø10/Ø150 Ø12/Ø180	Ø10/Ø150 Ø10/Ø180 Ø12/Ø220	Ø10/Ø130
用途 Applications	实验室少量搅拌 For stir of small quantity of solution	5-10L固液混合 For stir of 5-10L solid-liquid mixture	10-50L大容量液体 For stir of 10-50L solution	高粘度半流体 For stir high viscid solution	5-10L中等粘度 For stir of 5-10L mid viscid solution
适用搅拌器 Fit for Agitator	40W, 90W	120W, 250W	S312-250	S312-200P	S312-200P

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If materials applied are resistant to corrosion, high temperature, abrasion and aging? How to guarantee reliability on Durable Sealing, Valve System and Control System?	Durability		耐用性	所用材料是否耐腐，耐高温，耐磨损，抗老化？密封失效，阀门泄漏，电气失控，可靠性如何保障？
If installation and disassembly are easy and of low glass crack risk? If operation is simple? If these are possible to do without tools?	Simplicity		人性化	装拆是否方便？操作是否简单？不用工具即可装拆行吗？
Parts interchangeable? Training/Guidance or professional service available to improve your productivity? Strong backup from the brand?	Service		后续保障	零部件互换性，可否提供提高生产率的专业培训或支持，品牌的持久售后保障能力

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- **SENCO**。(生科)注册商标是行业中一线品牌，以“**安全、耐用、专业**”著称。面向中高端用户为主。
 - 由享受国务院津贴的专家领军团队，产品拥有**原创专利和独特技术**，关注细节，不断创新。
 - **防爆产品整机**按GB3836国家标准ExdIIBT4(T2)等级设计制造，配备独立超温保护系统，防干烧保护功能。如有更高安全要求，可定制ExIICT6等级。
 - 特种耐腐蚀、耐高温、高强度、低线胀系数、阻燃的**复合材料**应用，设备耐用性更胜一筹。
 - 精细加工工艺获得的玻璃**镜面法兰**，确保玻璃接口的气密性、互换性、装拆无损。
 - 独特的人性化结构设计，玻璃接口拆装清洗**无需工具**。拆卸过程无任何螺丝、垫片、金属零件分离失落。
 - SENCO设计制造的**专用阀门**(进料阀、出料阀、真空阀等)可耐各种化学溶剂，具有高清洁度，适用-50℃~200℃。
 - 直属工厂通过**ISO9001:2015**国际质量体系认证。
 - 主要产品系列2011年通过欧洲**CE**认证。
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 - 产品30%以上销往国际市场，**性价比高，远程服务能力强，购买无后顾之忧。**
-
- **SENCO**。 is among first brands in China, it featured as "**SAFE · DURABLE · PROFESSIONAL**", and serves middle and high-end users mainly.
 - Team is lead by expert who enjoys Special Allowance from State Department of China. We own **independent patents** and **unique technologies**. Details are always cared and innovations are keeping practicing.
 - **Ex-proof** products designed for ExdIIBT4(T2) level under GB3836 national standard. Equips independent over-heat protection system and dry-heat protector. To strict requirement on safety, level ExIICT6 can be modified.
 - Applications of **complex materials** ensure higher products' serving life and stability. Complex materials are resistant to corrosion, heat and flame, of high-strength and low line-expansion coefficient.
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