



SENCO®
Trade mark

ISO9001: 2015
Certified Manufacturer



Rotary Evaporators
Glass Reactors

Design for
GMP

R 旋转蒸发器
Rotary Evaporator
10-50L p8
0.5-5L p14

FC 夹套玻璃反应釜
Jacketed Glass Reactor
0.25-5L p24
10-150L p22

FH 恒温加热反应釜
Multi-functional Heating Reactor
2-50L p26

MD 分子蒸馏系统 0.08-0.5m² p18
TF 刮膜蒸发器 0.08-0.25m² p21
Molecular Distillation System
Thin Film Evaporator

周边配套仪器设备 Ancillary Equipments
- 过滤 Vacuum Filter p31
- 常温反应 RT Reactor/ Separator p31
- 真空 Vacuum Pumps p33
- 真空控制 Vacuum Controller p34
- 冷热循环 Cooling / Heating Circulator p36
- 搅拌 Over Head Stirrer p39

**Safe
Durable
Professional**
安全·耐用·专业

SENCO 介绍
Service & Quality

R 旋转蒸发
Rotary Evaporator

MD/TF 分子蒸馏/刮膜蒸发
Molecular Evaporator/TFE

FC 夹套反应釜
Jacketed Reactor

FH 斜式搅拌反应器
Incline Stir Reactor

VP/V 真空配套
Vacuum Related

H/C 冷热循环
Cooling/Heating

S 搅拌器
Stirrer (Head)

25载沉淀, 您身边的**个性化**定制专家
Your **personalized** equipment expert

SENCO® 生科仪器

08



浓缩 | Concentration
干燥 | Drying
精制 | Refining
分离 | Separation
结晶 | Crystallization

R 旋转蒸发器 Rotary Evaporator

0.1-5L | 10-50L | AFD

AFD自动进出料模块
Auto Feeding/
Discharging Module

18



21

适用于热敏、易氧、
高沸点物料分离
for liquid separation of
heat-sensitive,
easy-oxidized & of high boiling point

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

0.08m²~0.5m²

TF 刮膜蒸发器 Thin Film Evaporator

0.08m²~0.25m²

22



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

FC / FH 玻璃反应釜 Glass Reactor

FC 夹套反应釜 | FH 多功能单层反应釜
VF 真空抽滤器 | FY 常温反应搅拌器
Jacketed Reactor | Multi-func. Reactor |
Vacuum Filter | RT Reactor/Mixer

33



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

V / C / H 真空、冷热设备 Vacuum / Cooling-Heating Equipments

真空泵 | 真空控制
Vacuum Pump | Vacuum Controller
冷/热循环器 | 恒温浴锅
Cooling / Heating Circulator
Heating Bath

39



多种恒速、高速、强力搅拌
扭矩显示
Constant Speed, High
Speed, Power-Stir Agitator
With Torque Display

S 搅拌设备 Overhead Stirring Equipments

S 搅拌器 | SD 搅拌头
Over Head Stirrer | Stirring head

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)

上海申生科技有限公司(Senco)成立于1998年，专注于实验级液-液处理设备，生化仪器的设计和制造。产品主要用于生化制药、自然物提取、食品环境、新材料研发等科研领域。主导产品线包括：分子蒸馏、旋转蒸发、反应及合成，以及相关配套的真空、真空控制、冷热控温、搅拌

过滤等设备。公司拥有ISO9001:2015及CE认证。

产品技术总监由国务院特殊津贴专家担任。凭借长期的设计和制造优化，产品主要性能指标达到或接近世界知名品牌。

经历了近30年稳步发展，Senco累积了多领域用户群及丰富产品应用经验。品牌以其**好用耐用、产出率高、售后便捷、定制能力强、及市场认可的高美誉度及口碑**著称。

SENCO各产线产品在欧美、中东、东南亚、印、俄等主要市场长期销售和使用，服务能力获得全球经销商及用户的广泛认可。

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SENCO®商标，正式推出民族品牌——生科仪器。

Senco Technology came into existence and released her independent design of Rotary Evaporator Series (1-20L). As a pioneering brand in China, its design was followed and adopted by most subsequent Chinese brands till now. In year 2001, company registered brand SENCO®, SENCO products began to expand in domestic and international markets.

2002-2004

SENCO申请多项蒸发、反应领域设计专利，包括“全PTFE真空阀”、“串联式连续收集旋转蒸发器”“倾斜搅拌式反应釜”。这些设计独树一帜，解决了实际操作的很多问题。其中旋转蒸发器的连续蒸发设计在国内业界被大量模仿。

SENCO applied for multiple design patents in the fields of evaporation and reaction, including "Pure PTFE Vacuum Valve", "Series Continuous Collection Rotary Evaporator", and "Inclined Stirring Reactor". These designs were unique and solved many problems in practical operation. Among them, the continuous evaporation design of rotary evaporators has been widely imitated in the domestic industry.

2006

与蒸发提纯设备配套的关键设备“真空控制器”研制成功，国内首创并独家生产。

SENCO has successfully developed the key equipment "vacuum controller" that matches the evaporation process. It is the first launch in China and SENCO was the only domestic manufacturer for Vacuum Controller for many years.

2008

SENCO旋转蒸发器“第四代密封”技术研发成功，将动态密封关键指标：“到达真空度”由399Pa提高到133Pa。同年SENCO携极具技术竞争力的产品线参加海外展会，获得更多国外经销商关注和加盟。

SENCO has successfully developed the "fourth-generation sealing" technology for rotary evaporators, raising the key dynamic sealing indicator, "reaching vacuum degree", from 399Pa to 133Pa. In the same year, Senco participated international exhibitions with its highly competitive products, attracting more attention and cooperation from oversea distributors and users.

2009-2011

SENCO®获得征信机构“AAA信用资质”评级。SENCO企业获“10大最受欢迎实验室仪器设备企业”称号。SENCO中试级旋转蒸发器获中国仪器仪表行业“产品自主创新金奖”。同时，SENCO多品类产品通过CE认证，进入欧盟市场。

SENCO® has been awarded the "AAA Credit Rating" by credit reporting agencies. SENCO Enterprise was awarded the title of "Top

SENCO TECHNOLOGY CO. LTD.

Senco Technology Co., Ltd. was established in 1998, specializing in the design and manufacture of laboratory-grade liquid-liquid treatment equipments. The products are mainly applied in scientific research fields such as API, biochemical pharmaceuticals, natural substance extraction, food & environment, new material R&D, etc. The main product lines include: molecular distillation, rotary evaporation, reaction and synthesis, as well as related supporting equipment such as vacuum, vacuum control, cooling/heating circulation, stirring and filtration. The company holds ISO9001:2015 and CE certifications.

The chief technology director is held by professor Zhang Yihe, who enjoys special government allowances from The State Council. Through long-term design and manufacturing optimization, the

main performance indicators of Senco products have reached or approached those of world-renowned brands.

With nearly 30 years of steady development, Senco has accumulated a user base in multiple fields and rich product application experience. The brand is renowned for its **safety & durability, high output but low repair rate, strong customization capabilities**, as well as its market-recognized reputation and word-of-mouth.

SENCO persists on offering satisfied product at a reasonable price to users. Products have been applied in different markets for nearly 30 years. Its service capabilities have been widely recognized by global distributors and users.



2014-2016

10 Most Popular Laboratory Instrument and Equipment Enterprises". The SENCO pilot-scale rotary evaporator has won the "Gold Award for Independent Innovation of Products" in China's instrument and meter industry. Meanwhile, many product categories of SENCO have passed the CE certification and entered the EU market.

2014年, 经过5年多潜心研发, SENCO 0.08m², 0.12m²玻璃分子蒸馏(短程蒸馏)系统MD系列面市。设备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 0.08m², 0.12m² Glass 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 preheated MD system which helps users dealing viscous materials and get high purity products.

2019-2021

大型夹套反应系统120L, 150L上市; 双层夹套反应釜500ml~50L上市。带停电自动脱离加热源的面向要求更高的实验室2L旋转蒸发器上市。

Introduce bigger glass jacketed reactor up to 150L, Triple-wall glass reactor up to 50L to the market. Lab rotary evaporator R220 with automatic disconnection from the heating source at power failure was launched to meet higher end lab users.

2022

推出直流电机搅拌头产品, 回应了低沸点溶剂实验室对反应设备表温不得超过55C的要求。推出扭矩显示功能, 能更好地帮助用户及时辨识反应过程出现异常或设备异常状态。此选项可在所有SENCO反应釜上使用。

The launch of the DC motor stirring head product responds to the requirement in low-boiling-point solvent laboratories that the surface temperature of reaction equipment must not exceed 55C. Meanwhile, the stirring torque display function is available assisting users in promptly identify abnormalities in the reaction process or equipment failures. This option can be configured on all SENCO reactors.

2024-2025

研发出溶剂蒸发工艺自动进料出料系统, 可与蒸发设备配合使用, 极大降低用户人力成本, 将蒸发浓缩工艺带入少人值守的半自动化工作模式。

An automatic feeding and discharging system for evaporation process has been developed, which can be used with evaporation equipment, significantly reducing the labor cost for users, and bringing the evaporation and concentration process into a semi-automated working mode with few personnel on duty.

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
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。
- 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。
- 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.
- 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.



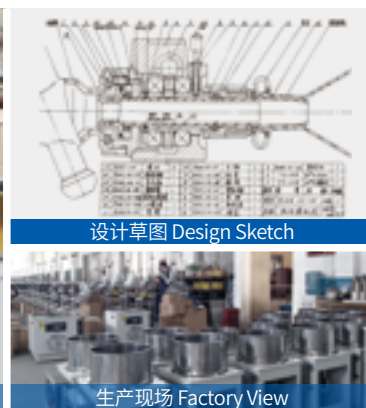
转速调试 Speed Regulation



高压测试 High Voltage Test



专用耐腐真空阀 Anti-Corrosion Valve



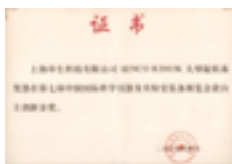
设计草图 Design Sketch

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



自主创新金奖
Gold Award for Product Innovation

- 公司拥有原创专利六项(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。
- 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。

- Senco owns 6 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.
- 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



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



产品CE认证
CE Certificate



出厂前的各项检验
Various Testing before shipping

- 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。
- 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。
- 主要产品系列均已获得CE认证，出口欧盟国家。
- 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。

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

提供免费应用指导，帮助用户增效，延长产品使用年限。

■ 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 value-added application guidance to help users increase efficiency and extend the product's service life.

■ 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: 255020 产品编号: 255027 出厂日期: 2024.11.11 规格型号: 152

合格证
CERTIFICATE OF QUALITY

保修卡
WARRANTY CARD

保修登记卡
SERVICE CARD REGISTER

客户姓名	电话	地址
联系人	电话	地址
经销商	电话	地址
产品型号	规格	数量
客户地址	电话	地址

地址: 上海浦东新区川沙新镇川沙路1000号 邮编: 201200 电话: 021-50202700 传真: 021-50202701 售后服务部: 021-50202702



SENCO的【与用户一起做实验】实践

Do experiment with Users

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。

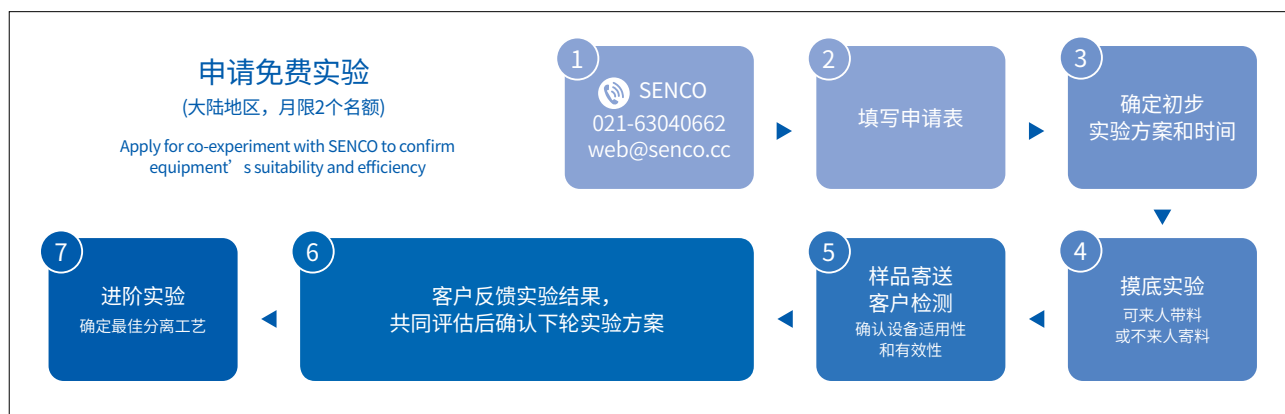
即便是相同的设备，因设计和制造工艺差别，分离步骤差别，也会导致蒸不出，分不清，效率低的问题。欢迎咨询SENCO公司(021-63040662; web@senco.cc)，获得更多专业信息和帮助。

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

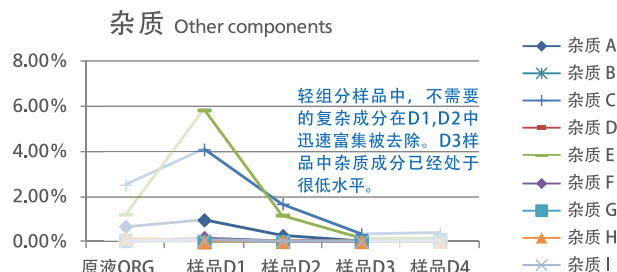
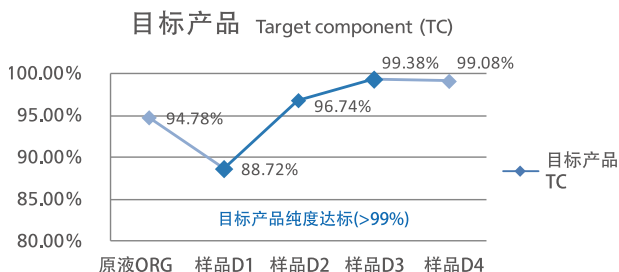


实验案例

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

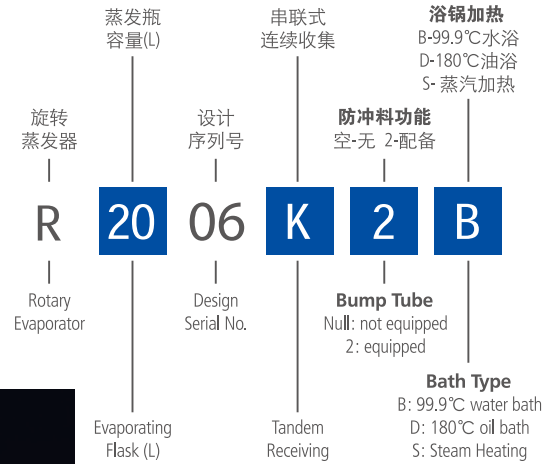
SENCO helped one customer to get qualified product on SENCO MD with **receiving rate 220% comparing to traditional separation while process consuming time decreased by 70%, process was clean and simple.** Final equipment proposal applied optimum configurations base on experiment result which helped customer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



旋转蒸发器

ROTARY EVAPORATOR

10-50L



50L, R5006KB



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.



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.

整机全精密法兰连接
— 装拆安全易保养

Overall Flange Joints

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

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。

Patent Continuous Receiving Tech.

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



全PTFE真空放料阀(专利号: 01253089.1)

Senco专利技术, 耐腐, 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, 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).



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.



防爆型防爆 (选配)

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.



低温冷阱保护系统 (选配)

防止物料蒸汽抽入真空泵, 预防泵液倒灌污染物料。

Cold Trap Protection (Optional)

Trapping escaped corrosive/harmful vapor so to protect vacuum pump and people health. Avoid vacuum pump liquid flow back to system.



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.

蒸汽测温口

由压力决定的蒸汽温度 (蒸发液沸点) 对指导设定理想的加热及制冷温度至关重要。

Vapor Temp. Measurement Port

The vapor temp. (BP) determined by pressure is crucial for guiding the setting of ideal heating and cooling temperatures.



卸瓶架 (选配)

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.

SENCO TR串联式连续收集技术(K机型标配)

SENCO TR Tandem Receiving Technology (equipped on K models)

SENCO K系列旋转蒸发器在高真空，高耐压能力，长效密封等关键指标上媲美国际优秀指标。同时K系列还配置了SENCO串联式连续收集专利技术，在负压蒸发工况下，用户无需停机即可中途放料，且无真空波动。完美实现物料的批次一致性和过程稳定性。

额外的收益还有：

- 大幅简化放料过程，提升产率
- 简化收集系统连接结构，易装易拆不易损
- 降低50%收集结构漏点，维护系统气密能力。

The K series SENCO rotary evaporators are comparable to excellent indicators of that of global brands, which in-

工作原理 Working Principle

cludes high vacuum, low pressure leakage rate and long-lasting seals. The K series also equips with SENCO Tandem Type Continuous Receiving Technology, which allows user draining collected solvents without vacuum vent or even vacuum fluctuation.

It perfectly achieves batch consistency and process stability with less manpower during the evaporation work.

Additional benefits user can get includes:

- Greatly simplify the material discharge process and increase the production rate
- Simplify the connection structure of the collection system, making



R5005KB-EX

it easy to install, disassemble and not prone to damage

- Reduce the leakage points on the collection structure by 50% which contributes to overall sealing performance.

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	<p>连真空源 To vacuum</p> <p>自动切换阀 Auto-shift valve</p> <p>放气阀 Vacuum release valve</p> <p>放料阀 Discharge valve</p>		<p>放气阀 Vacuum release valve</p> <p>手动切换阀 Manual shift valve</p> <p>放气阀 Vacuum release valve</p> <p>放料阀 Discharge valve</p>
蒸发稳定性 Evaporation Performance	<ul style="list-style-type: none"> ● 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. 		<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● 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. 		<ul style="list-style-type: none"> ● 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

R 旋转蒸发器10~50L
Rotary Evaporator

标准机型 Standard Model		R1002B	R2002B	R2005KB	R2006KB	R5005KB	R5006KB
相关型号 Relevant Model		R1002D R1005B	R2002D /	R2005KD R2005K2B	R2006KD R2006K2B	R5005KD R5005K2B	R5006KD R5006K2B
蒸水速度(H ₂ O) Evaporating Speed (H ₂ O)		3L/h	5L/h	5L/h	5L/h	9L/h	9L/h
蒸发瓶 (L) Evaporating Flask (L)		10L/F95	20L/F95	20L/F120	20L/F120	50L/F120	50L/F120
收集瓶带放液 (L) Receiving Flask w/ 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)		10-110	10-110	10-110	10-110	10-110	10-110
到达真空(Pa) Reachable Vacuum Rate		< 133Pa (1.33mbar, 1 Torr)		< 133Pa (1.33mbar, 1 Torr)		< 133Pa (1.33mbar, 1 Torr)	
静态温控范围及波动(°C) Static Temp. Control Range & Wave (°C)		0-99(180)±0.2		0-99(180)±0.2		0-99(180)±0.2	
浴锅功率 (kW) Bath Power (kW)		3/2 (Ex or oil)	5/3.6 (Ex or oil)	5/3.6 (Ex or oil)		9/6 (Ex or oil)	
浴锅尺寸(cm), 容量, 材质 Bath Size, Capacity, Material		Ø35x25H, 22L, SUS304	Ø45x27H, 40L, SUS304	Ø45x27H, 40L, SUS304		Ø55x32H, 70L, SUS304	
电源 Power		220V,1P, 50/60Hz		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、配套设备性能匹配度有关。

Max evaporation speed is affected by opr. settings & the performances/matching level of supporting equipments.

功能配置 Functional Configurations

标准机型 Standard Model		R1002B	R2002B	R2005KB	R2006KB	R5005KB	R5006KB
4	玻璃接口系统 Glass Joint System	锥磨口配PTFE隔膜 Taper Joint w/PTFE Sleeve (anti-joint dead seizure)		法兰连接+耐酸碱法兰快夹 Flange Interface + Anti-corrosion Flange Clamp			
	数字显示 Digital Display	● 浴温 · 转速 Bath Temp., Rotation Speed					
2	进料阀 Charging Valve	玻璃 Glass		PTFE			
3	放料阀 PTFE Discharge Valve	PTFE					
	串联式不停机连续 收集 Tandem Type Continuous Receiving	/	/	●	●	●	●
1	PTFE组合动密封 PTFE Rotary Seal Assembly	●	●	●	●	●	●
	变频调速 Frequency Conversion Speed Control	●	●	●	●	●	●
	机械真空表 Pointer-type Vacuum Gauge	●	●	●	●	●	●
	真空节流 Throttle Valve for Vacuum	●	●	●	●	●	●
	冷却水接口转接头 Cooling Water Circulation Adaptor	/	/	●	●	●	●
	蒸汽温度测温口 Thermometer Port for Vapor Temperature	/	/	●	●	●	●
5	浴锅电动升降 Electric Bath Lift	/	/	/	●	/	●
	304不锈钢机架 SUS304 Frame	/	/	/	●	/	●
	大蒸发口径升级* big Evaporation Neck upgrade *	/	/	○ F145	○ F145	○ F145	○ F145
8	防冲系统* Bumping System *	/	/	○	○	○	○
7	冷阱系统* Cold Trap System *	/	/	○	○	○	○
9	卸瓶架 Evaporating Flask Unload Handler	/	○	○	○	○	○
	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	
6	Ex防爆升级* Ex-proof upgrade*	电机/控制箱/电缆隔爆+改低功率加热密度+独立过温及防干烧保护+防爆级别ExdIIBT4/ExilICT6 Overall ex-proof modification, Dry heat and overheat cut-off protection, ExdIIBT4/ExilICT6 level					
	水浴锅自动补水 Auto Bath Water Replenishment	○	○	○	○	○	○

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.

AFD 自动进出料模块

AFD Auto-Feeding & Discharging Module

安全、稳定、高效
Safe, Stable, Efficient

适用场景

- 大量溶剂连续回收
- 低量产品持续浓缩
- 危险品蒸发，减少人员暴露/接触

Applicable Scenarios

- Continuous recovery of plenty of solvents;
- Continuous enrichment of low % products;
- Personnel exposure reduce when dealing with dangerous material.

处理能力

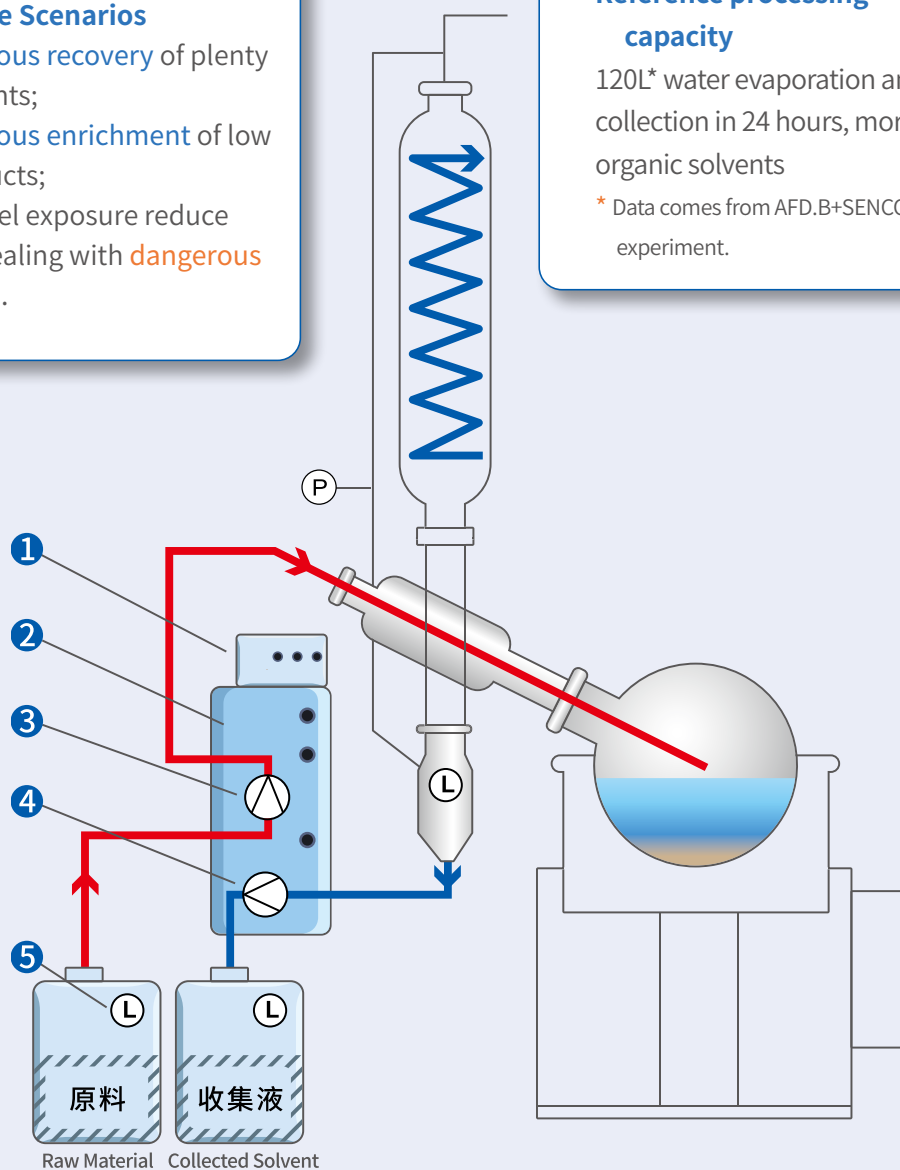
24小时蒸水120L*, 有机溶剂更快

* 数据来源AFD.B与SENCO R20旋转蒸发器联测

Reference processing capacity

120L* water evaporation and collection in 24 hours, more for organic solvents

* Data comes from AFD.B+SENCO R20 experiment.



AFD工作原理示意图 Working Diagram

基础能力

配套SENCO旋转蒸发器使用时

- 不停止蒸发过程，系统负压下自动排出收集液，补充原液，24小时连续稳定工作。
- 实时监控异常状态，如蒸不出、排不出、原料空，蒸发结束等。
- 自动识别异常状态，并发出不同声音警示，提示人员及时干预。
- 高处理能力，低人工值守。实现连续进/出料自动工作。

Basic Functions

When work with SENCO pilot scale rotary evaporator, AFD.B (Basic) offers:

- 24-hr continuous discharging the collected solvent, and replenishing the solution under vacuum.
- Real time monitor of abnormal process status, such as less evaporation, less collection, empty of raw material, finish of evaporation etc.
- Issuing different sound warnings that corresponding to abnormal states identified in time, to prompt personnel intervene and inspect.
- Achieving continuous auto feeding/discharging with few people on duty and high production yield.

拓展信息

- AFD.B基础版提供高清洁、无泵体接触的排料过程。额定排液速度最高20L/hr。
- AFD.H高速版提供316泵头排料，额定排料速度提至最高60L/hr。
- AFD标配不含浓缩液排料，用户可联系SENCO另行定制提供。
- 浴锅自动补水功能(可选配)
- ExdIIBT4防爆型系统(可选配)
- 浓缩液端排料(请接洽)

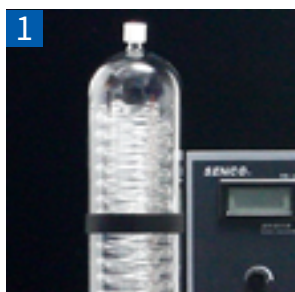
Considerations when use AFD module

- AFD.B (Basic) offers a highly clean discharge process w/no pump body contact. Rated discharge speed is 20L/hr max.
- AFD.H(High-speed) offers a 316 pump head discharge process. Rated speed is 60L/hr max.
- The AFD.B does NOT contain auto-discharge for the concentrated liquid Users please contact SENCO for customizing a solution.
- Water replenishment in heating bath pot optional.
- Explosion-proof upgrade (level ExdIIBT4) optional.
- Discharge of the Condensed liquid (customizable at request)

旋转蒸发器

ROTARY EVAPORATOR

0.5-5L



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/退瓶装置

可稳固锁定锥磨口连接，方便锥口退瓶。

Flask Lock and Release Device

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



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 (optional)

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



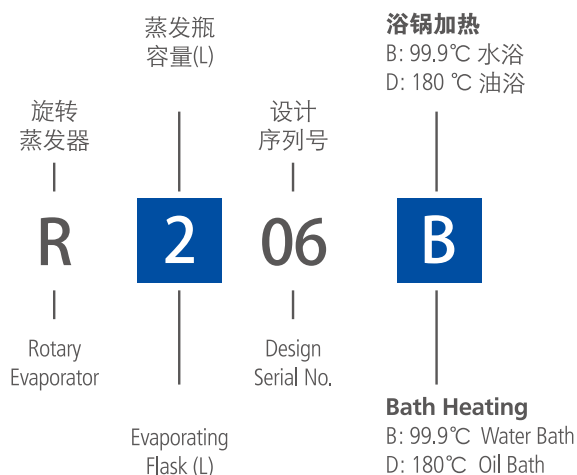
可升降浴锅

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℃.



R220 匠心制造，性能卓越 ——追求实验员心中的国产优品

Ideal lab rotary evaporator for lab technician ——R220



R220

到达真空
Reachable Vacuum **133 Pa/1 torr**

漏率
Leakage Rate **20Pa/min**

最高转速
Max RPM **280rpm**

电动升降
Electric Lift **150mm**

蒸水速度
Evap. Speed (H2O) **25ml/min**

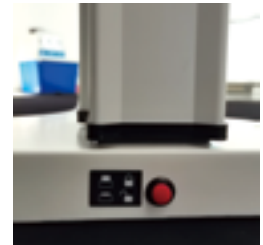


冷凝器接口及功能

螺纹接口设计，配置 OD11 转接嘴，安全连接外接管路。

Condenser Nozzles

Threaded pipe nozzles equipped with OD11 joint adapter, offer safe pipe connection.



自动回升功能及锁定键

遭遇停电时，机头自动回升，使物料脱离加热源。

停电回升功能并不依靠电池，无需保养或担心安全问题。

设备另行提供升降锁定键，方便用户随时关闭回升功能，进行设备移动或打包。

Auto Lifting Function & Lock Key

The evaporation flask would be lifted automatically to separate the material from the heating source during power outage. The function does not rely on batteries, so no maintenance or safety concern is needed.

One Lifting Lock Key is provided at back allowing users to turn off the auto-lifting function when need to move or pack the device.



恒温浴锅 (220V/110V)

锅内测温+锅外浇筑复合层加热=精准控温、寿命长久、安全清洁。

配置超温/干烧保护，配置独立大电流开关，提供220V,110V灵活供电。

锅胆SUS304+工业级特氟龙涂层，真材实料长久如新。

Heating Bath (220V/110V)

External Heating + Internal Temp. Measurement = Long life span,

Accurate Temp. Control, and Clean use experience. Heating Bath has over-temp, and dry heating protection. Equipped with an independent high-current switch for safe and convenient use.

Offer 220V or 110V voltage supply.

The pot liner is made of SUS304+ industrial-grade Teflon coating, with genuine materials that remain as good as new for a long time.



前置升降操作面板

面板移至操作近端，方便用户通风柜内操作。

Lifting Operation Panel

Front side design of the lifting panel facilitates users' operation in the fume hood.



基本参数 Parameters

R 旋转蒸发器0.5~5L
Rotary Evaporator

标准机型 Model		R213B	R214B	R206B	R220B	R308B	R502B	R503B
相关型号	Relevant Model	/	/	R206D	R220D	R308D	R502D	R503D
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	2L/h
蒸发瓶 (L)	Evaporating Flask (L)	0.5+1L/29			1L/29	3L / F50	5L / F50	
收集瓶 (L)	Receiving Flask (L)	1L/S35		1L/S35		2L/S35	3L/40, 下出料 w/Discharge	
冷凝面积 (m²)	Condensing Surface (m²)	0.14 斜式 Diagonal	0.18 立式 Vertical			0.2 立式 Vertical	0.3 立式 Vertical	
转速(rpm)	Rotation Speed (rpm)	10-180	10-180	4-200	20-280	4-180	2-90	2-90
到达真空	Reachable Vacuum Rate	< 133Pa (1.33mbar, 1 Torr)				< 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	2 kW
静态温控范围及波动(°C)	Static Temp. Control Range & Wave (°C)	RT-99±0.2		RT-99(180)±0.2		RT-99(180)±0.2		
锅胆尺寸(cm), 容量,材质	Bath Pot Size, Capacity, Material	Ø24x15, 6L, SUS304			Ø23x11, 5L, SUS304四氟涂层 + Teflon coating	Ø26x15, 8L, SUS304	Ø28x17, 10L, SUS304	
电源	Power	220V 50/60Hz			220V 50/60Hz (110V optional)	220V, 1P, 50/60Hz		
整机尺寸(cm)	Dimensions (cm)	88x53x70H	62x33x82H		65x43x73(90)H	65x36x95H	84x40x115H	

** 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	R206B	R220B	R308B	R502B	R503B
长效PTFE组合密封 PTFE Seal Assembly	●	●	●	●	●	●	●
PTFE下出料阀 PTFE Bottom Discharge Valve	/ NA					●	●
3 蒸发瓶锁退瓶装置 Evaporating Flask Lock & Release Device	●	●	●	●	/ NA		
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	/	●	●	/ NA	●	●	●
升降 Lift	● 浴锅手动升降 Bath Lift Manual			● 机头电动 Motor, Electric	● 浴锅手动升降 Bath Lift Manual		
回流 Reflux	●	/	/	/	/	/	●
蒸汽测温口 Thermometer Port for Vapor	/	/	/	/	/	/	●
5 水浴锅罩 Water Bath Lid	○	○	○	/	/	/	/
蒸发瓶转接口 Evaporation Flask Port Adaptor 29-24	○ 29-24 (29-19)				○ F50-29 (F50-24)		
备选蒸发瓶 Optional Evaporating Flask	100ml, 250ml, 2L				500ml, 1L, 2L	2L, 3L	2L, 3L
安全防护 Safety Features	R220: 超温/干烧保护, 断电机头自动回升 Dry-heat protection, Auto lift at power failure						

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-常用选备件

Parts for Rotary Evaporator

更多配件，
联系SENCO咨询
For more spare parts,
contact www.senco.cc

易损密封件 Easy Worn Seal Parts

	配件 Parts	备注 Remarks	
		For R5- 机型选购	For R10+ 机型选购
  	氟胶主密封 Fluorubber Rotary Main Seal	高真空蒸发场景 For high vacuum evaporation scenario	
		25x35x7	50x70x10
	四氟主密封 PTFE Rotary Main Seal	有机溶剂，腐蚀溶剂蒸发场景 for corrosion / organic solvent evaporation scenario	
		Ø25xØ50x6	50x70x11
	四氟组合密封 (V高真空款/S耐溶剂款) PTFE Seal Assembly V – for higher vacuum S – for plenty of solvent evaporation	已包含主密封及O型圈等旋转密封易损件，可直接替换原组件使用。 It contains all easy-worn rotary seal parts already and can be used to replace the original assembly directly.	
		左L, Ø25/F50 (for R2,R3,R5) 右R, Ø25/F50 (for R3, R5)	Ø50/F95, Ø50/F120 (可升级 F145 optional)

玻璃件 Glass Parts

	配件 Parts	备注 Remarks	
		For R5- 机型选购	For R10+ 机型选购
   	转接口 Joint Adaptor	ST29-24, for R2 F50-29 (24) for R3-5	
	防冲瓶 Bump Trap Adaptor	ST29-29 (24), for R2 F50-29 (24) for R3-5	
	蒸发瓶 Evaporation Flask	0.25~2L/29, for R2 3~5L/F50 for R3-5	5~20L/F95, 10~50L/F120 F145法兰可选 Flange size optional
	导气轴 Vapor Shaft	Ø25x100/29 for R2 Ø25x100/0 for R3-R5	Ø50x202/F60 for R10+

其他常用 Others

	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	For R2, 5, 20, 50	可节省60%浴锅水的蒸发 Save bath water by 60%
	卸瓶架 Flask Unload Handler	For R20, 50	20L以上旋转蒸发器选用 Optional for 20L and above model use

分子蒸馏(短程蒸馏)

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

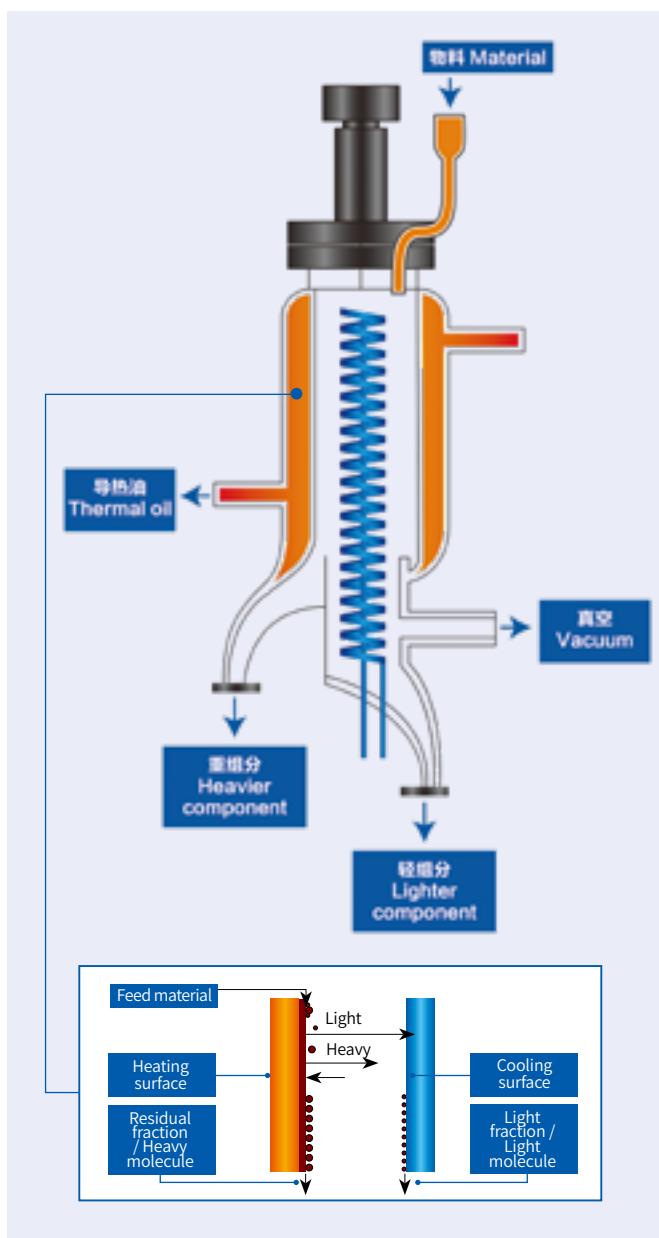
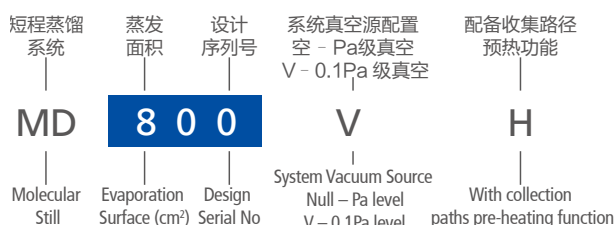
Has advantages on dealing with materials that is heat sensitive, of high boiling temperature, belongs to biological acids or lipids

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.

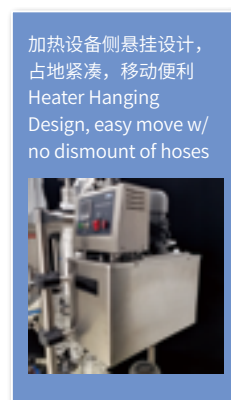
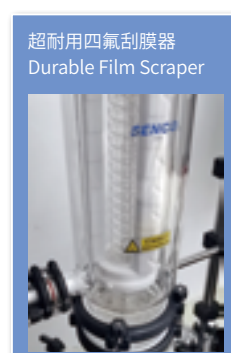
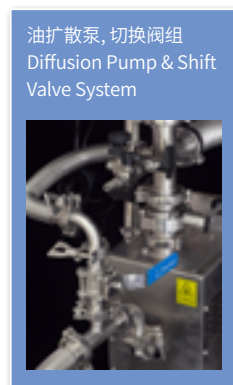
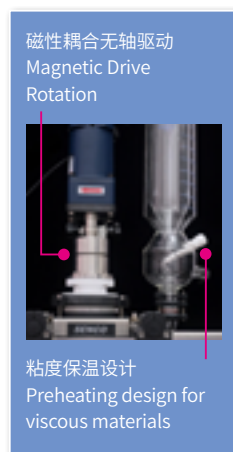


SENCO MD 的特点

- 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.



基本配置 Basic Parameters

MD 分子蒸馏系统0.08~0.25m²
Molecular Distillation System

Pa 级机型 Pa Model	MD800	MD1200	MD2500	MD5000H
0.1Pa 级机型 0.1Pa Model	MD800V	MD1200V	MD2500V	MD5000VH
参考处理速度 L/h Reference processing speed L/h	0.5-4 L/h	0.5-7 L/h	2-15 L/h	4-30 L/h
	注：处理速度与物料特性、处理工艺、目标纯度等综合相关，范围仅供参考 Note: The processing speed is comprehensively related to the material properties, processing technology, target purity, etc. The range is for reference only			
蒸发柱材质 Material of the Evaporation Column	高硼硅玻璃 3.3 High borosilicate glass 3.3			SUS316
蒸发面积，直径 Evaporation Area, Diameter	0.08m ² , ID95	0.12m ² , ID95	0.25m ² , ID150	0.5m ² , ID220
内置冷凝面积 Internal Condensation Area	0.11m ² 玻璃盘管式 0.11m ² glass coil	0.16m ² 玻璃盘管式 0.16m ² glass coil	0.3m ² 玻璃盘管式 0.3m ² glass coil	0.6m ² 316 盘管式 0.6m ² SS316 coil
转速范围 rpm rpm Range	60-480 rpm			40-280 rpm
系统极限负压级别 System ultimate vacuum	5Pa / 0.1Pa (V 型 for model V)			5Pa / 0.1Pa (V 型 for model V)
系统真空源 Vacuum Source	旋片泵 / 油扩散泵 + 阀组 (V 型) Vane Pump / Diffusion Pump (for model V)			
标配尺寸 cm Std. Pdt. Dimensions	120x60x200H cm	120x60x230H cm	120x60x220H cm	190x80x265H cm
主机电源 Power Supply	AC220V 1P, 50/60Hz			

功能配置 Functional Configurations

机架 Frame Style	● SUS304 管材框架 ● SUS304 Pipe Frame			● SUS304 方管框架 ● SUS304 Square Tube Frame
旋转驱动 Rotary Drive	● PMD 磁力驱动 (无轴封) ● PMD Magnetic Drive (No Shaft Seal)		● AMD 磁力驱动 (无轴封) ● AMD Magnetic Drive (No Shaft Seal)	
刮膜器总成 Film Scraper Assembly	● 无金属外露 PTFE 刮板成膜总成 ● PTFE Scraper Assembly (No metal exposure)		● SUS316 刮板支架 +PTFE 四氟刮板成膜 ● PTFE Scraper Assembly (w/SUS316 scraper pole)	
辅助脱气泵接口系统放气针阀阀组 Degassing pump Nozzle and Vacuum Release Needle Valve Assembly	●	●	●	●
保护真空源的冷阱单元 Cold Trap for pump protection	●	●	●	●
真空规 Vacuum Gauge	● 全量程 0.1Pa~100kPa x1； ○ 可选配第二位置真空规 ● Full range 0.1Pa~100kPa x1； ○ Vacuum Gauge at 2nd temp. measure spot			
进料单元 Feeding Unit	● 1L 单层玻璃进料瓶 ● 1L Feeding Flask	● 2L 单层玻璃进料瓶 ● 2L Feeding Flask	● 5L 单层玻璃进料瓶 ● 5L Feeding Flask	● 10L 玻璃低位进料瓶 ● 10L (lower position) Feeding Flask
	● 配四氟进料阀 ○ 可替换为 SS316 高精度针阀 ● w/PTFE feeding valve ○ can replace with SS316 needle valve			● SS316 高精度针阀 ● SS316 high precision needle valve
	○ 泵进料系统 ○ Pump feeding module			● 泵进料系统 ● Pump feeding module
收集单元 (轻 + 重组分 + 冷阱收集瓶) Collection Unit (light, heavy components, external condensation)	● 1+1+0.5L 玻璃球瓶 + 清洗阀 x2 ● 1+1+0.5L glass round flask + Drain Valve x2	● 2+1+0.5L 玻璃球瓶 + 清洗阀 x2 ● 2+1+0.5L glass round flask + Drain Valve x2	● 5L+5L+1L 玻璃球瓶 + 出料转接阀 x2 ● 5L+5L+1L glass round flask+discharge transaction valve x2	● 10L+0L+1L 玻璃球瓶 + 出料转接阀 x2 ● 10L+0L+1L glass round flask + discharge transaction valve x2
	○ 多容量收集瓶；			

符号含义：/- 无，● - 已配，○ - 可选 Symbol Instruction: /- None, ● - Equipped, ○ - Optional

MD分子蒸馏系统是个允许做强用户配置的专业系统。

SENCO提供专业的实验级系统配置服务，可为您所要选购的MD设备提供专业配置咨询，甚至模拟实验服务。请访问www.senco.cc/联系我们，获得服务。

The molecular distillation sys. is a professional sys. that allows user to DIY configurations.

SENCO provides MD system configuration consultation for our customers, and even simulation experiment services. Contact www.senco.cc to get consultation/services.

基本参数 Parameters

TF 刮膜蒸发器0.08~0.25m²
TF Thin Film Evaporator

	TF800	TF1200	TF2500
蒸发器材质 Material of the Evaporator	高硼硅玻璃 3.3 High borosilicate glass 3.3		
蒸发面积, 直径 Evaporation Area, Diameter	0.08m ² , ID95 (R4)	0.12m ² , ID95(R10)	0.25m ² , ID150 (R20)
有效冷凝面积 Condensation Area	0.3m ²	0.4m ²	0.8m ²
搅拌电机 Rotation Motor	AC 120W/3		
转速范围 rpm rpm Range	60-480 rpm		
系统极限负压级别 System ultimate vacuum	50Pa		
标配尺寸 cm Std. Pdt. Dimensions	120x60x200H cm	120x60x230H cm	150x75x260H cm
主机电源 Power Supply	AC220V 1P, 50/60Hz		

功能配置 Functional Configurations

机架 Frame Style	● SUS304 管材框架 ● SUS304 Pipe Frame		
旋转驱动 Rotary Drive	● PMD 磁力驱动 (无轴封) ● Magnetic Drive (No Shaft Seal)		● AMD 磁力驱动 (无轴封) ● AMD Magnetic Drive (No Shaft Seal)
成膜转子总成 Film Scraper Assembly	● 无金属外露 PTFE 刮板成膜总成 ● PTFE Scraper Assembly (No metal exposure)		● SUS316 刮板支架 +PTFE 四氟刮板成膜 ● PTFE Scraper Assembly (w/SUS316 scraper pole)
真空表 Vacuum Gauge	● 机械指针式真空表		

符号含义: / - 无, ● - 已配, ○ - 可选 Symbol Instruction: / - None, ● - Equipped, ○ - Optional

刮膜蒸发器在处理热敏混合液的蒸发分离上有传统蒸发器无法取代的优势。高硼硅玻璃制可直观呈现整个物料的分离过程。
丰富的进料、出料、冷热单元可进行模块化选择, 帮助研发人员快速DIY所需的TF刮膜蒸发系统。
The film scraping evaporator has advantages in the heat sensitive material evaporation process. High borosilicate glass presents the entire material separation process.
A rich variety of feeding, discharging, cooling/heating options can be modularly selected to set up one DIY TF evaporator.

MD/TF 分子蒸馏/刮膜蒸发
Molecular Evaporator/TFE

FC开盖式夹套玻璃反应釜

JACKETED GLASS REACTOR

0.25-150L

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.

夹套玻璃反应釜 Jacketed Glass Reactor

反应釜体容积 (L)
Flask Capacity (L)

电机 Motor Type

0-交流感应 AC conduct,
1-DC直流无刷 DC brushless

搅拌密封 Stirring Seal

1-3轴封 Axial
4机封 Mechanical

有定制
Tailor Made

防爆机型
Explosion-proof
upgraded

双夹套升级
Double Jacketed

配过滤功能
w/ Filtering Function

SUS304支架风格 Stand

/ : 座式支架 Seat Style
K: 框式支架 Frame Style



FC50 (50L)

含有部分选件
With optional parts



釜盖配置(10L+)

- 釜盖接口丰富，均为抛光法兰口连接，配SENCO免工具法兰快夹。无锥口咬死装拆安全便利。
- 配置耐酸碱机械搅拌密封。
- 四氟阀芯进料，全程清洁无污染
- 可插拔PT100温度计，允许更低测温位设置。
- 大通量冷凝器，球口连接，易装减震。可拓展分液，蒸馏，精馏等功能。

Flask Cap Arrangement

- Cap joints upgraded to flanges, equipped with SENCO tool-free quick clamp. Installation w/no taper seizure, is safe and convenient.
- Long life anti-corrosion Mechanical Stirring Seal
- PTFE Feeding Valve, clean feeding w/no gel pollution
- PT100 Thermometer with free installation depth, allowing deeper temp. measurement
- Condenser connected by ball joint, is easy for assembly w/less vibration. Can expand functions like liquid separation, distillation, rectification etc.



电机和驱动

标配采用DC无刷电机，扭矩大温升低。
提供rpm和扭矩双显示。

Motor and Driver

Equipped with DC brushless motor stirring system, can offer strong stirring effect with less heating generated. Both rpm and the Torque display.



PTFE底部侧放阀

无死角、无积液、最大放料口径 Ø20~42mm。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 Side Discharge Valve

No dead angle. Maximum drift diameter ranges from Ø20~42mm for pilot models. Is able to decrease vessel crack risk from over-propelling the bottom valve.

F40备用口 (10L+)

F40 Spare Neck (10L+)

F60/F95法兰搅拌口

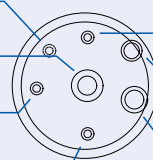
Stirring Neck F60/F95

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

基本参数 Parameters

FC 夹套反应釜10~150L
Cap Style Jacketed Reactor

底座式机型 Model with Seat type Frame		FC10.14	FC20.14	FC30.14	FC50.14	FC100.14	FC150.04
框架式机型 Model with Frame type Frame		FC10.14K	FC20.14K	FC30.14K	FC50.14K	FC100.14K	FC150.04K
反应釜体(L)	Reaction Vessel (L)	10L	20L	30L	50L	100L	150L
釜盖接口数	Port Numbers on lid	7	7	7	7	7	7
出料孔口径(mm)	Flush Hole Diameter (mm)	Ø22	Ø22	Ø22	Ø32	Ø32	Ø42
转速(rpm)	Rotation Speed (rpm)	60-560			20-400	20-280	20-280
电机/减速	Motor/Gear Down	DC 250W (ex AC 120W)			DC 250W/4 (ex AC 250W/2.7)	DC 250W/5 (ex AC 250W/2.7)	AC 370W/5 (ex AC 370W/2.7)
搅拌直径(含-不含 四氟套) mm	Stirring Rod Diameter (w/ w.n PTFE sleeve) (mm)	Ø14-12			Ø25-20		
电源	Power	AC 100~240V, 50/60Hz					AC 220V 50/60Hz
整机尺寸(cm)	Dimensions (cm)	55x48x170H	55x48x200H	55x48x210H	95(105)x60x 230H	105(120)x70x250H	130(150)x80x 280H

功能配置 Functional Configurations

DC调速/AC变频	DC Speed Regulation/ AC VFD	●	●	●	●	●	●
转速显示	RPM Display	●	●	●	●	●	●
扭矩显示 (限DC电机配置)	Torque Display (for DC Motor Model only)	●	●	●	●	●	/
搅拌密封	Stirring Seal	● 机封 Mechanic Seal ○ 可改轴封 Axial Seal optional					
搅拌桨总成 *	Stirring Impeller Assembly *	● 单层推进款 One deck PTFE propeller				● 双层推进款 Double deck PTFE propeller	
滴加装置(L)	Drip System (L)	0.5L	0.5L	0.5L	5L	5L	10L
PTFE进料阀	PTFE Charging Valve	● 清洁无脂，法兰快接 Clean and grease free, connect with quick flange clamp					
PT100温度计	PT100 Thermometer	●	●	●	●	●	●
固体加料口	Solid Feeding Port	● F60	● F60	● F60	● F80	● F80	● F80
回流冷凝	Reflux Condensing	● S51	● S51	● S51	● S51	● S51	● DN50
预紧式侧放料阀	Pre-loaded Bottom Side Discharge Valve	● 自补偿热胀冷缩无泄漏，无积液，无死角,可接管 no leakage under big temperature change, no fluid accumulation, no dead corner, hose attachable					
机械真空表	Vacuum Meter	●	●	●	●	●	●
夹套切向进出液 口布置	Tangent Style Jacket inlet/ outlet with Adaptor	F40-M30x1.5	F40-M30x1.5	F40-M30x1.5	F40-M30x1.5	F40-M30x1.5	F50-M38x1.5
蒸馏冷凝-分层-收 集系统	Distillation-Separation- Receiving System	○ 3L	○ 5L	○ 5L	○ 10L	○ 20L	○ 30L
夹套限压装置 *	Jacket Pressure Release Device *	○	○	○	○	●	●
釜体泄压阀 (0.2或 0.4bar放气)	Vessel Pressure Release Valve (0.2 or 0.4 bar)	○	○	○	○	○	○
移动滑轮	Lockable Wheels	●	●	●	●	●	●
双夹套反应釜	Double Jacket Reaction Flask	○	○	○	○	/	/
过滤反应组件*	Filter Reaction Assembly*	○	○	○	○	/	/
个性化轻定制	Personalized Customization	○ 桨叶设计，PH，气体吹扫，氯气洗涤，釜体扰流，精馏等工艺 Impeller Design, PH, Gas purging, Chlorine gas washing, Reactor body buffer, Rectification func. etc.					
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.

FC02~5L 反应釜功能配置图

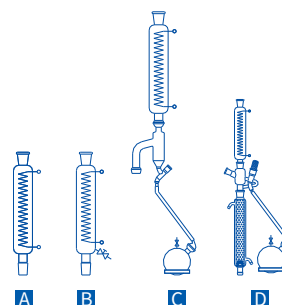
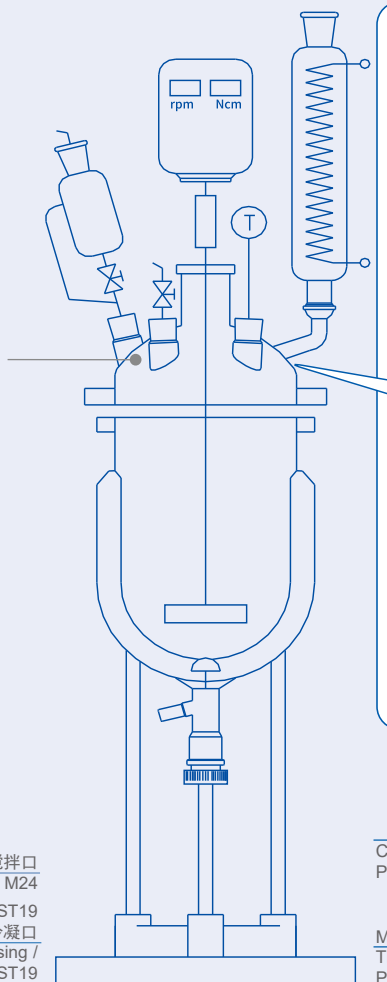
Functional Configuration Diagram (FC02~5L reactor)

釜盖功能口及配置

搅拌口 - 机械密封
进料口 - 液体进料阀
滴加口 - 恒压漏斗
冷凝口 - 回流冷凝器
测温口 - 玻璃测温管

Reactor Cover Port layout and configurations

Stirring – Mechanic Seal Stirring
Feeding – w/feeding valve
Dripping – w/dripping funnel
Condensing – w/reflux condenser
Thermometer Port - w/ Thermometer Tube



- 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

M20 测温口
Thermometer
Port M20

M20 进料口
Feeding Port
M20

M24 搅拌口
Stirring Port M24

2 x ST19
滴加 / 冷凝口
Dripping Port 2xST19

冷凝口
Condensing
Port ST24

M18 测温口
Thermometer
Port M18

F60 搅拌口
Stirring Port F60

ST24 滴加口
Dripping Port ST24

ST24 进料口
Feeding Port
ST24

FC0214 (250ml)



FC214 (2000ml)



基本参数 Parameters

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

标准机型 Standard Model		FC02.14	FC05.14	FC1.14	FC2.14	FC3.14	FC5.14
反应釜体(L)	Reaction Vessel Capacity	0.25L	0.5L	1L	2L	3L	5L
釜盖接口	Functional Neck on Cap	5口-搅拌，进料，测温，滴加，冷凝 5 ports - stirring, feeding, temperature measurement, dripping, condensation					
电机 W	Motor (W)	DC 60W	DC 60W	DC 60W	DC 60W	DC 60W	DC 60W
转速(rpm)	Rotation Speed (rpm)	50-700			50-700		60-560
搅拌直径(含-不含 四氟套) mm	Stirring Rod Diameter (w/w.n PTFE sleeve) (mm)	Ø8-6					Ø14-12
釜底出料通径 (mm)	Flush Diameter (mm)	Ø10	Ø10	Ø10	Ø10	Ø10	Ø10
电源	Power	100~240V, 50/60Hz					
整机尺寸(cm)	Dimensions (cm)	30x35x90H		32x35x93H	40x42x105H	42x42x112H	42x42x116H

功能配置 Functional Configurations

标准机型 Standard Model		FC02.14	FC05.14	FC1.14	FC2.14	FC3.14	FC5.14
转速显示	RPM Display	●	●	●	●	●	●
扭矩显示 (限DC电机配置)	Torque Display (for DC motor model)	●	●	●	●	●	●
搅拌密封	Stirring Seal	● 机封 Mechanic Seal					
搅拌桨叶	Stirring Impeller	● PTFE 2叶旋片 PTFE 2-blade propeller ○ 其他形状选配 other shape optional					
进料阀	Charging Valve	●	●	●	●	●	●
底部PTFE阀芯侧放阀	Bottom PTFE Side Discharge Valve	●	●	●	●	●	●
玻璃测温管	Thermometer Tube	●	●	●	●	●	●
小滴加(L)	Drip Funnel (ml)	100ml	100ml	100ml	250ml	250ml	250ml
夹套切向进出口布置	Tangent Style Jacket inlet/outlet w/Adaptor	● F22-Ø11 ○ F22-M16x1.0			● F30-Ø11 ○ F30-M16x1.0		
回流冷凝	Reflux Condensing	●	●	●	●	●	●
蒸馏收集系统 *	Distillation & Receiving *	○ (0.25L)	○ (0.25L)	○ (0.25L)	○ (0.5L)	○ (1L)	○ (1L)
分液收集*	Separation & Receiving *	/	/	/	○	○	○
精馏收集*	Rectification & Receiving *	/	/	/	○	○	○
双夹套反应釜	Double Jacket Reaction Flask	○	○	○	○	○	○
定制	Customization	/	/	/	○ 过滤反应, 精馏收集, 防爆 Filter Reaction, Rectification, Ex-proof		

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。

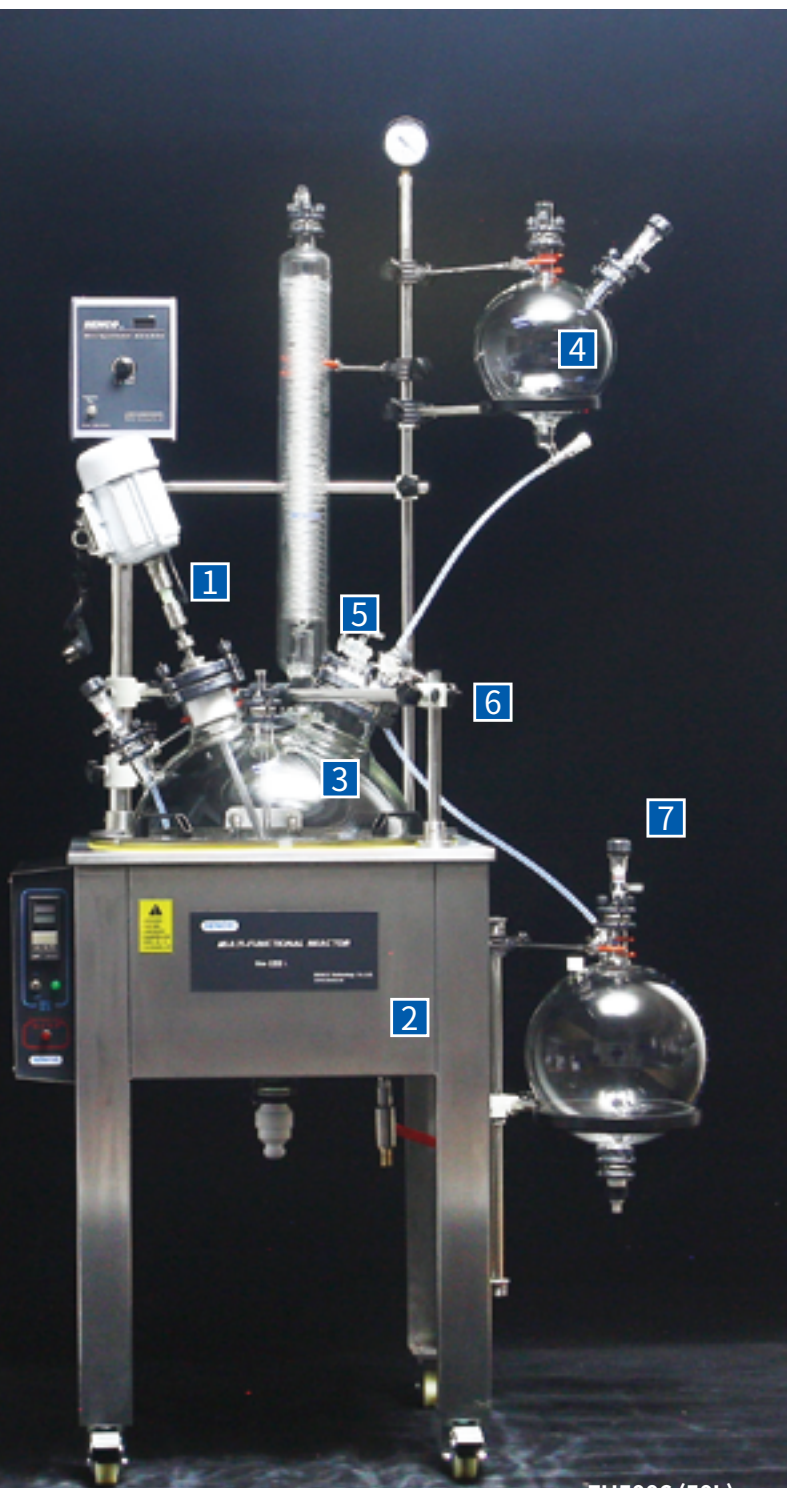
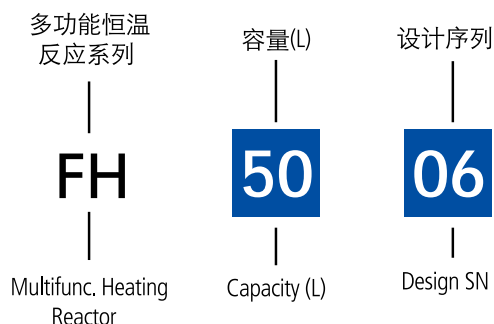
Symbol Instruction: / - None, ● - Equipped, ○ - Optional (* - Only available when ordering of product, not for separate sale)

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



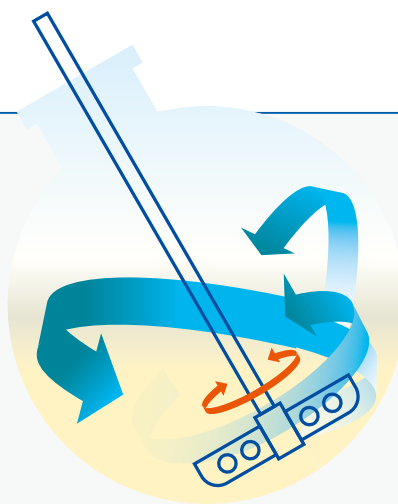
FH5006 (50L)
w/optional functions (含选配)

- 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
- 标配有：搅拌，加料，回流冷凝，测温，多功能大口及无积液下出料功能；
- 选配拓展功能丰富，如：
- 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 浴锅冷却盘管降温功能**

- 1 Patent Incline Stir (bidirectional)**
- Incomparably perfect stereo-stir performance.
- 2 Adiabatic Stand with Intelligent Heating System inbuilt**
- Max heating temp. up to 180°C. 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 Reaction flask**
- **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 Bath Cooling with internal cooling coil**

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



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	<ul style="list-style-type: none"> ● 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. 		<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ☺ 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. 		<ul style="list-style-type: none"> ☺ 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： <ul style="list-style-type: none"> - 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: <ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> ☺ 全透明反应瓶体，实验观察角度没有限制 No limitation to watch angle 		<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● 功能选件相对较少。 ● Optionals are comparatively fewer. 		<ul style="list-style-type: none"> ☺ 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	<ul style="list-style-type: none"> ● 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. 		<ul style="list-style-type: none"> ☺ 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	<ul style="list-style-type: none"> ● 瓶体抗冷热急变能力稍差。 ● 夹套内不能承受过高正压，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. 		<ul style="list-style-type: none"> ● 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.

FH20-50 功能配置图

Functional configuration diagram

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)

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

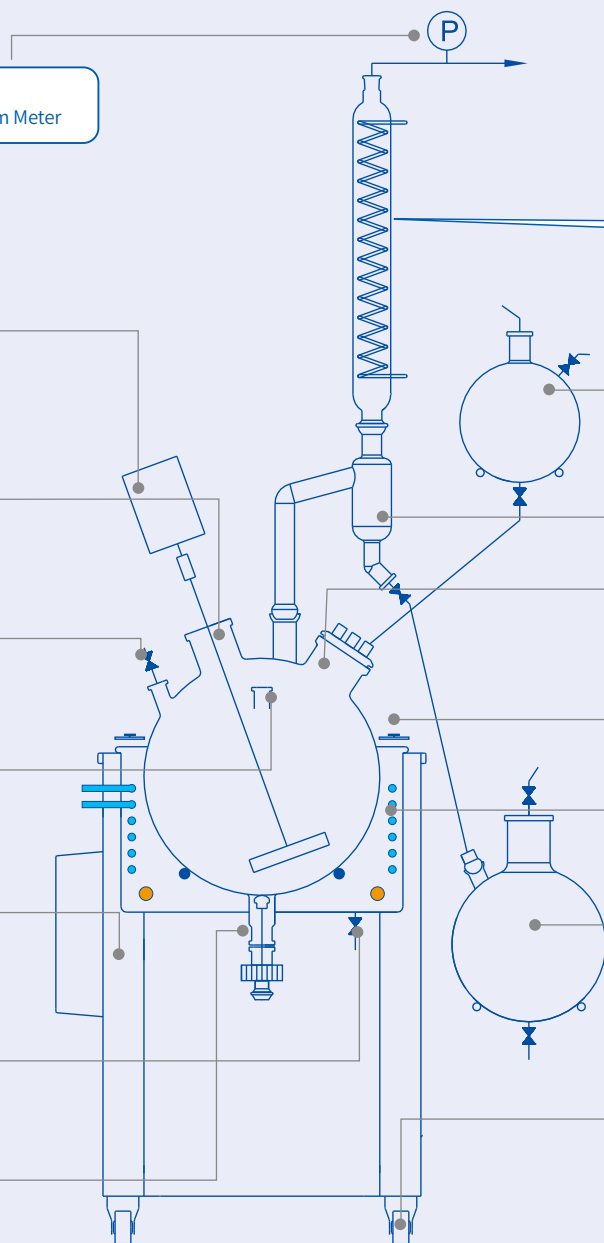
SUS Bath Pot with drain valve

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.

真空表

Vacuum Meter



FH214, FH514



FH20 (20L)
(w/rectification
column)



FH5006-EX(50L)



标配 Standard Config.

*选配 Optional Config.

*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

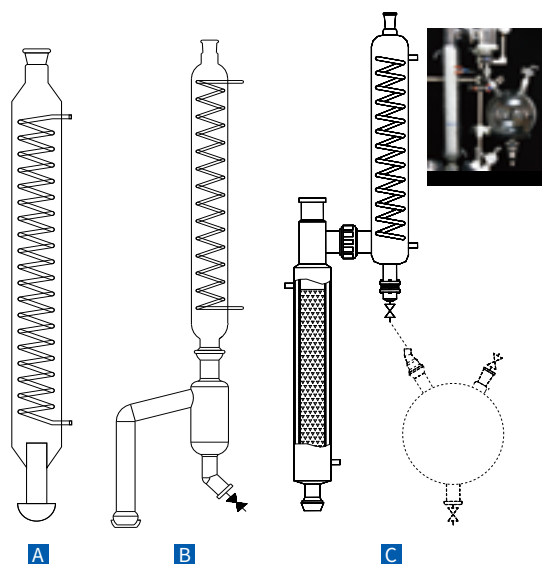
F120多功能大口, 手可伸入。选配ST24x3
三口拓展盖
Wide F120 flange opening, allow hand to
stretch in. Equips ST24x3 Neck Expansion Cap

*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/discharge valve

*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

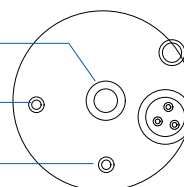
B 选配分液器, 实现蒸馏-分液-收集功能
(Optional) Add one liquid separator to achieve
distillation-separation-receiving function.

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

F95法兰搅拌口
Stirring Neck F95

F40法兰进料口
Charging Neck F40

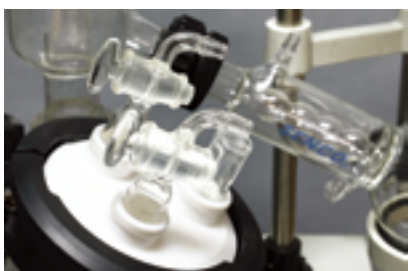
F40法兰测温口
Thermometer Neck F40



S51冷凝球口
Spherical Condensing Neck S51

F120法兰多功能口
(可拓展3x24标口)
Flange Multifunc. Neck F120
(can explore to 3xST24 necks)

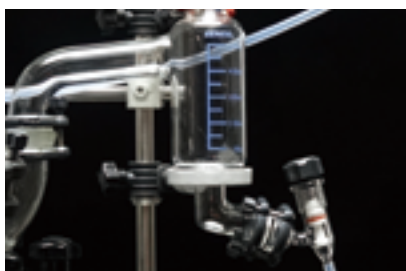
可增加机动接口。Extra neck on cap can be modified at request.



5 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。

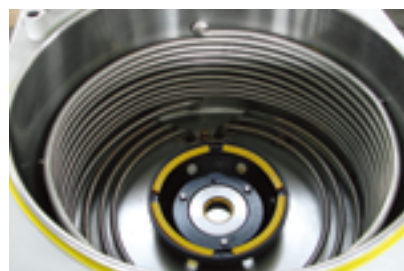
Glass/PTFE 3-hole Neck Expansion Cap
Optional for equipping on wide neck.
Enable to add more necks on reaction flask
flexibly so to extend more add-ins.



6 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.



8 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.

基本参数 Parameters

FH 多功能反应器 2-50L
MULTIFUNCTIONAL REACTOR

标准机型 Standard Model		FH2.14	FH2.14	FH20.06	FH50.06
反应瓶(L)	Reaction Flask (L)	2L	5L	20L	50L
3 釜体功能口数	Funcional Ports	5口-搅拌, 进料, 测温, 滴加, 冷凝 5 ports - stirring, feeding, temperature measurement, dripping, condensation		5+1 -搅拌, 进料, 测温, 固体(滴加), 冷凝, 机 动口+放料口 5+1 ports - stirring, feeding, temp.- measurement, solid feeding(dripping), condensation + draining	
电机 W	Motor (W)	DC 60W	DC 60W	AC 250W (ex AC 250W)	AC 250W (ex AC 250W)
转速(rpm)	Rotation Speed (rpm)	60-700	60-700	60-560	60-560
搅拌直径 (含-不含四氟套) mm	Stirring Rod Diameter (w/w.n PTFE sleeve) (mm)	Ø8-6	Ø8-6	Ø14-12	Ø14-12
底部出料口径 mm	Flush Diameter (mm)	/	/	Ø22	Ø22
浴锅功率 (kW)	Bath Power (kW)	1.3 kW	2kW	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
电源	Power	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		FH2.14	FH5.14	FH20.06	FH50.06	
1	倾斜式立体搅拌	Inclined Stereo Stir	/	/	●	●
	自动正反搅拌 *	Auto CW/CCW Stir *	/	/	○	○
	搅拌密封	Stirring Seal	● 机封总成 Mechanic Seal Assembly		● 轴封总成 Axial Seal Assembly	
	数字显示	Digital Display	温度 · 转速 Bath Temp., Rotation Speed			
	扭矩显示 (限DC电机配置)	Tourque Display (for DC motor model)	●	●	/	/
	真空表 *	Vacuum Meter *	○	○	●	●
	加料阀	Charging Valve	● Glass	● Glass	● PTFE	● PTFE
	测温管	Thermometer Tube	●	●	●	●
	F120固体投料口	Multi-functional Wide Neck (F120)	/	/	●	●
5	3口拓展盖	3-hole Neck Expansion Cap	/	/	○	○
	回流冷凝	Reflux Condensing	●	●	●	●
7	蒸馏收集*	Distillation Receiving *	○ (0.5L)	○ (1L)	○ (5L)	○ (10L)
6	液体分层*	Liquid Stratifier *	/	/	○	○
	精馏收集*	Rectification-Receiving *	/	/	○	○
	小滴加(赠送)	Drip Funnel (Present)	0.25L	0.25L	0.5L	0.5L
4	5L滴加系统	Drip System (5L)	/	/	○	○
	釜底无积液PTFE放料阀	No Dead Area PTFE Discharge Valve	/	/	● 直放阀 Flush ○ 侧放阀 Side	
	浴锅放液口	Bath Drain Port	●	●	●	●
	浴锅盖	Bath Cap	/	/	○	○
8	冷却盘管*	Cooling Coil *	/	/	○	○
2	浴锅隔热	Bath Heat Isulation	/	/	●	●
	不锈钢机座	SUS Stand	/	/	●	●
	移动可锁滑轮	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180/300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 180/300mm 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		VF2002	VF3002
进料方式	Feeding Method	吸入 / 倒入 Suck In / Pour in	吸入 / 倒入 Suck In / Pour in
抽滤瓶 (L)	Suction Flask	3L	5L
收集瓶 (L)	Receiving Flask	20L	30L
FEP 真空吸管	FEP Vacuum Pipe	OD12mm / ID10mm	OD12mm / ID10mm
过滤板组件	Filter Plate Assembly	Ø180(Ø300) PTFE 滤板支承，均布 Ø2.5 (5) mm 细孔，配合各目数滤纸使用 Ø180 (Ø300) PTFE plate with Ø2.5 (5) mm small holes equispaced, can work with filtering paper with various mesh	
整机尺寸 (cm)	Dimensions (cm)	45x45x130H	55x55x145H
VF 抽滤器特点	Features of VF filter	倒入吸入两用，过滤直径大，滤板承压能力强，可移出清洗，滤膜材质目数可调。 Bigger Filtering diameter with strong pressure bearing ability; Filter plat is removable for wash; Filter membrane material and mesh changable.	

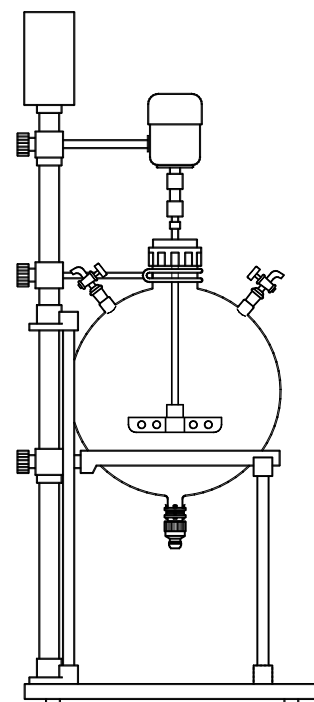
常温反应分液器 Room Temperature Reactor/Separator

本设备可作为常温反应器，提供常压/负压条件下，多种物料混合的化学/物理反应；也可作为分液器，对萃取/反应新生物料根据比重不同进行分液提取。

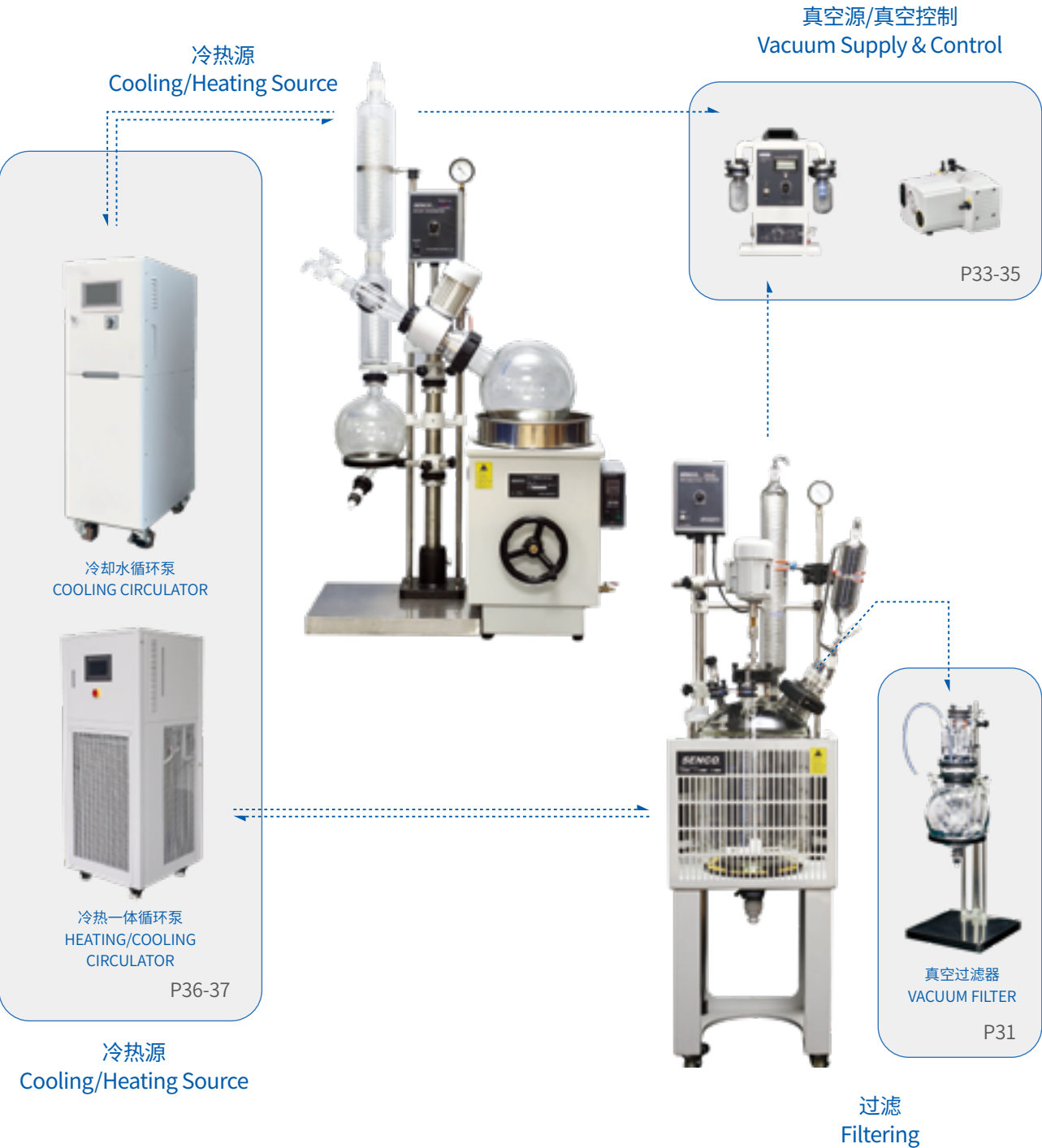
It is used to mix various materials for chemical or physical reactions under room temperature or with vacuum condition as a RT reactor, or it can also be used to separate materials extracted with different specific gravities as a liquid separator.

基本参数 Parameters

型号 Model		FY20	FY50
反应瓶容量(L)	Reaction Flask (L)	20	50
电机 W	Motor (W)	DC 250W	DC 250W
搅拌转速(rpm)	Stirring Speed (rpm)	60-560	60-560
额定/最大转矩(Ncm)	Rated/Max Torque (Ncm)	130/160	130/160
电源电压(V)	Power (V)	100-240V 1P, 50/60Hz	

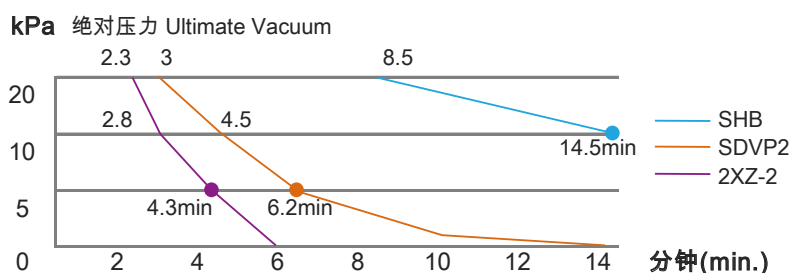


相关配套 ANCILLARY EQUIPMENTS



真空泵 Vacuum Pump

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



SHB



2XZ-2



SDVP

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. x2	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	不锈钢泵，双表双头；较耐腐，保养简便；防爆场合谨慎使用 SUS Pump Head, 2 pump nozzles w/vacuum meter; simple in Maintenance; resist to certain corrosion; NO use in explosive/ flammable air	真空度高，抽速快；不可抽取腐蚀性气体或大量蒸汽 High vacuum rate and fast pumping speed; Not for pumping of corrosive gas or quantity of steam.

型号 Model		SDVP1P	SDVP2P	SDVP4P	SDVP8P
		化学隔膜泵 Chemical Diaphragm Pump			
配套旋蒸	Fit for Rotary Evaporator	1L-10L	2L-20L	10L-50L	50-100L
最大抽速	Max Pumping Speed	1.2m³/h (20L/ min)	2m³/h (33L/ min)	4m³/h (66L/ min)	8m³/h (132L/ min)
极限真空度	Ultimate Vacuum Rate	300Pa (3mbar/2.2 torr)	800Pa (8mbar/6 torr)	200Pa (2mbar/1.5 torr)	60Pa (0.6mbar/0.5 torr)
额定功率	Rated Motor Power	220V 80W	220V 180W	220V 360W	220V 400W
整机尺寸(cm)	Dimensions (cm)	33x15x21H	25x25x19H	34x25x19H	38x20x31H
产品特点	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!			

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.

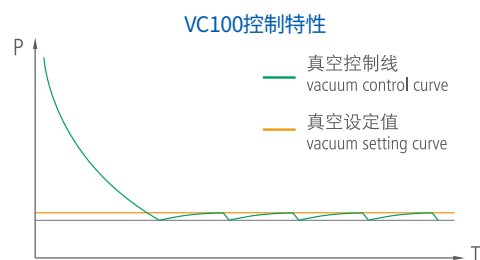
- Built-in electromagnetic valve to control target system pressure automatically.
- Equips power port for vacuum pump
- With buffer bottle and filter bottle for protection



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!



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



一站式 真空控制蒸发方案 One Stop Rotary Evaporation Sets

实验室2L旋蒸配置方案 2L Lab Evaporation Set



DL-2004	R220	VC100	SDVP
制冷循环泵 Cooling Circulator	旋转蒸发器 Rotary Evaporator	真空控制器 Vacuum Controller	隔膜真空泵 Diaphragm Pump
<ul style="list-style-type: none"> ■ 高效提供制冷能力带来有效冷凝 ■ Powerful Chilling capacity brings efficient condensing 	<ul style="list-style-type: none"> ■ 超低漏率保障稳定蒸发 ■ Low Leakage Rate guarantees stable evaporation 	<ul style="list-style-type: none"> ■ 低沸点物料蒸发时必备设备。实现蒸发系统压力控制，保护工作环境和真空系统。 ■ One helpful equipment that controls evaporation pressure for low boiling point solvent, which indirectly protects the working environment and vacuum pump. 	<ul style="list-style-type: none"> ■ 耐溶剂及化学腐蚀 ■ 维护简便 ■ 不适合抽取固体/粉末 ■ Anti-corrosion ■ Easy maintenance ■ Not for pumping solids/powder

蒸发实例：使用SENCO 2L旋蒸配置方案回收低沸点的试料 **回收率 99%**

蒸发收集过程**高速，稳定**。系统真空压力在VC100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。

Evaporation Examples: Using SENCO "2L Rotary Evaporation Set" to remove solvents of low boiling **Recycle Rate 99%** point Whole evaporation processes were **quick and stable**. System vacuum is well controlled by Vacuum Controller VC100, 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	
试料 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°C	70°C	10.2kPa	2.2L/hr	98.7%
丙酮 Acetone-C ₃ H ₆ O	<-2°C	54°C	37.7kPa	5.2L/hr	99.4%
氯仿 Chloroform-CHCl ₃	<-2°C	58°C	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°C，使用1000ml蒸发瓶，一次加料500ml。

欲获得最大蒸发量，加热温度应高于试料沸点温度40°C以上。

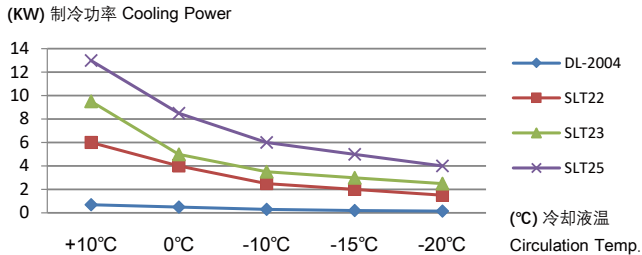
The data is collected in test of 2L SENCO Rotary Evaporation Set. Condition: RT22°C, Rotation flask 1000ml, Charging Volumn 500ml.

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

单冷/单热循环泵

Cooling/Heating Circulator

循环制冷泵制冷能力曲线 Cooling Power Curve



【测定条件 Tested under】: AC 220V, 50Hz @RT 25°C
空载短接循环流量最大时 Max circulation flow w/no external load

用于提供物料蒸发冷凝时所需的循环冷凝液。制冷量充分，设计紧凑耐用，可与SENCO产品相配套。
Providing cooling circulation liquid for Rotary Evaporators and Reactors. Has big cooling capacity, with compact and durable design, can work with SENCO products as systems.

部分型号 Partial Model		DL2004	SLT2-2(W)	SLT2-3(W)	SLT2-5(W)
配套系统容量参考	for system capacity (ref.)	for 1-5L	for 10-30L	for 30-50L	for 50-80L
温控范围(°C)	Temp. Set Range (°C)	-20°C~RT	-25°C~RT	-25°C~RT	-25°C~RT
**制冷量kW@-5°C /-15°C	**Cooling Power@-5°C /-15°C	0.5kW@0°C 0.2kW@-15°C	4KW@0°C, 2KW@-15°C	5KW@0°C, 3KW@-15°C	8.5KW@0°C, 5KW@-15°C
最大循环流量(L/min), 压力(bar)	Max Flow Rate (L/min) , Pressure(bar)	8L, 0.3bar	30L, 1.6bar	30L, 1.6bar	30L, 1.6bar
循环方式及储液量	Circulation Type & Storage Volumn	开放式 4L open type	封闭式 closed system	封闭式 closed system	封闭式 closed system
触摸屏控(含温度曲线显示、数据记录、通讯功能)	Touch Screen Panel (w/temp. curve display, data record, communication func.)	/	●	●	●
风冷改水冷(20°C) W机型	water cooling 20C instead of fan cooling (model W)	/	○	○	○
外壳材质	Shell Material	不锈钢 SUS304	冷轧钢板喷漆 Cold-rolled steel plates with plastic spraying		
电源	Power	220V, 50/60Hz	220V 50Hz	380V 3P 50Hz	380V 3P 50Hz
整机尺寸(cm)	Dimension (cm)	22x51x55H	40x60x115H	50x68x135H	55x68x145H
定制项目	Customization	/	○ 防爆升级, 修改供电电压/频率等 Upgrade to Ex-proof model, Modify Voltage or Hz		
过载/过热保护	Overload/Over Temp. Protection	●	●	●	●

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

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(200)	SUC5020	SUST5530	SUST7530	SUST1030
配套反应釜参考	for reactor capacity (ref.)	for 1-10L	for 10-50L	for 30-70L	for 70-100L	for 100-150L
温控范围(°C)	Temp. Set Range (°C)	50-100(200)°C	50-170°C	50-300±0.5°C	50-300±0.5°C	50-300±0.5°C
加热功率(kW)	Heating Power (kW)	2kW	5.5kW	5.5kW	7.5kW	10kW
冷却能力	Cooling Power@65°C	/	4kW@100°C, 1.8kW@65°C	4kW@100°C, 1.8kW@65°C	5kW@100°C, 2.2kW@65°C	7kW@100°C, 3kW@65°C
最大循环流量(L/min), 压力(bar)	Max Flow Rate (L/min) , Pressure(bar)	19L, 0.8bar	35L, 1.5bar	35L, 2bar	50L, 2bar	50L, 2bar
外壳材质	Shell Material	不锈钢 SUS304	冷轧钢板喷漆 Cold-rolled steel plates with plastic spraying			
触摸屏控(含温度曲线显示、数据记录、通讯功能)	Screen touch control (w/ temp. curve display, data record, communication func.)	/	○	●	●	●
程序模式	Programming	/	○	●	●	●
电源	Power	220V 1P, 50/60Hz, 2.5kW	380V 3P, 50Hz, 6kW	380V 3P, 50Hz, 7kW	380V 3P, 50Hz, 9kW	380V 3P, 50Hz, 12kW
整机尺寸(cm)	Dimensions (cm)	22x41x48H	40x70x130H	45x70x130H	45x70x160H	45x70x160H
定制项目	Customization	/	○ 防爆升级, 修改供电电压/频率等 Upgrade to Ex-proof model, Modify Voltage or Hz			
过载/过热保护	Overload/Over Temp. Protection	●	●	●	●	●

冷热一体循环器

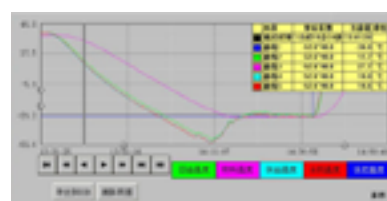
Dynamic Temperature Control Circulator (Thermostat)

封闭式循环设计，温控范围-25~200°C，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°C), 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.



SD系列 SD Series



基本参数 Parameters

部分型号 Partial Model		SD320(W)	SD235(W)	SD255(W)	SD275(W)	SD2A10(W)
配套系统容量参考	for system capacity (ref.)	for 1-5L	for 10-30L	for 30-80L	for 80-100L	for 120-150L
温控范围(°C) (可拓展)	Temp. Set Range (°C) (can be expanded to)	-30-180°C	-25-200(300)°C	-25-200(300)°C	-25-200(300)°C	-25-200(300)°C
温控选择	Control options	物料、夹套 Material, Jacket				
温控精度(物料)	Control Accuracy (Reactant)	±1°C	±1°C	±1°C	±1°C	±1°C
加热功率(kW)	Heating Power (kW)	2kW	3.5kW	5.5kW	7.5kW	10kW
制冷量 kW@-5°C/-15°C	Cooling Power@-5°C/-15°C	0.7 / 0.4kW	3 / 1.8kW	4.5 / 2.8kW	6.3 / 3.8kW	8 / 4.6kW
最大循环流量(L/min), 压力(bar)	Max Flow Rate (L/min), Pressure(bar)	10L, 0.8bar	35L, 1.2bar	35L, 1.2bar	50L, 1.2bar	60L, 1.2bar
循环方式	Circulation Type	封闭式 closed system				
触摸屏控(含温度曲线显示、数据记录、通讯功能)	Touch Screen Panel (w/ temp. curve display, data record, communication func.)	●	●	●	●	●
程序模式	Programming	●	●	●	●	●
接口尺寸	Joint Size	ZG1/2 / M24x1.5	ZG3/4 / M30x1.5	ZG3/4 / M30x1.5	ZG1 / M30x1.5	ZG1 / M30x1.5
W水冷型(20°C)	water cooling 20C instead of fan cooling (model W)	○ 1500L/hr, 1.5~4bar, ZG1/2	○ 1500L/hr, 1.5~4bar, ZG1/2	○ 1800L/hr, 1.5~4bar, ZG3/4	○ 3000L/hr, 1.5~4bar, ZG3/4	○ 4200L/hr, 1.5~4bar, ZG3/4
外壳材质	Shell Material	冷轧板喷塑 Cold Rolled Plate with plastic spray				
以太网接口, 电脑操作软件	PC Software & Ethernet interface	○	○	○	○	○
电源(最大)	Power (Max)	220V 50Hz, 3.2kW	380V 3P 50Hz, 7kW	380V 3P 50Hz, 9.5kW	380V 3P 50Hz, 15kW	380V 3P 50Hz, 16kW
整机尺寸(cm)	Dimensions (cm)	35x56x75H	45x70x160H	45x70x160H	55x70x175H	65x85x185H
定制项目	Customization	○ 防爆升级, 修改供电电压/频率等 Upgrade to Ex-proof model, Modify Voltage or Hz				
安全防护 Safety Features						
过载/过热保护	Overload/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。

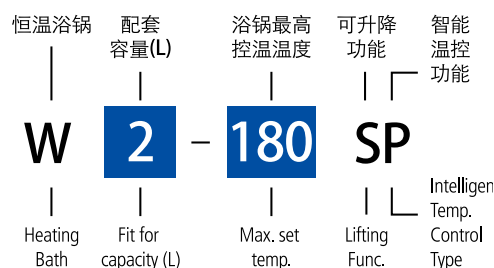
More suitable models can be recommended after customer system (rotary evaporator, reactor system, etc.) & operation needs confirmed.

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



W220-100P



W5-100SP



W20-100SP

基本参数 Parameters

标准机型 Standard Model		W220-100P	W2-100SP	W3-100SP	W5-100SP
相关型号	Relevant Model	W220-180P	W2-180SP	W3-180SP	W5-180SP
静态温控范围/波动(°C)	Static Temp. Control Range/Wave (°C)	(RT+5)~99/180±0.2			
加热功率(kW) 水浴/油浴(防爆)	Heating Power (kW) water/oil(ex) bathing	1.3	1.3	1.3	2
浴锅尺寸, 容量, 材料	Bath Size, Capacity, Material	Ø23x11, 5L, SUS304四氟涂层 + Teflon coating	Ø24x15H, 6L, SUS304	Ø26x15H, 8L, SUS304	Ø28x17H, 10L, SUS304
升降(cm)	Lift Distance (cm)	/	11	11	12
电源	Power	220V(110V)	220V	220V	220V
整机尺寸(cm)	Dimension (cm)	30x30x27	35x33x24(35)	36x34x24(36)	40x38x27(39)

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(°C)	Static Temp. Control Range/Wave (°C)	(RT+5)~99/180±0.2		
加热功率(kW) (水浴/油浴(防爆))	Heating Power (kW) (water/oil(ex) bathing)	3 / 2	5 / 3.6	9 / 6
浴锅尺寸, 容量, 材料	Bath Size, Capacity, Material	Ø35x25H, 22L, SUS304	Ø45x27H, 40L, SUS304	Ø55x32H, 70L, SUS304
升降(cm)	Lift Distance (cm)	18	18	18
电源	Power	220V	220V	380V 3P
整机尺寸(cm)	Dimension (cm)	48x48x58(76)	60x65x62(78)	70x70x65(83)
浴锅自动补液 *	Auto Bath Liquid Replenishment *	○	○	○
浴锅防爆升级 *	Explosion proof upgrade *	○	○	○

** 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(头) Overhead Stirrer (Head)



搅拌头可贴牌配套
Stirrer Head Available
for OEM service



S512-60



S512-250



S512-250P

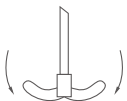
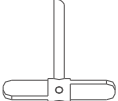

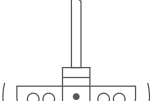
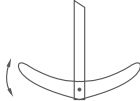
基本参数 Parameters

型号 Model	S512-60	S512-250	S512-250P	S312-250H
主要特性 Main Feature	小巧, 电机温升低 Compact, Low Motor Temp. Rise		强力搅拌, 温升低 Power Stir, Low Motor Temp. Rise	高速 High Stirring Speed
电机 Motor Type	DC直流无刷电机(带过载堵转保护) DC Brushless Motor (w/overload protection)			AC三相交流感应电机 3-P AC Induction Motor
电机功率(W) Motor Power (W)	60	250	250/4	250
转速(rpm) Rotary Speed (rpm)	60-1300	60-1500	20-400	120-4000
额定/最大扭矩(Ncm) Rated/Max Toque (Ncm)	40 / 60	130 / 160	480 / 600	58
显示 Display	转速, 扭矩 rpm & Torque			转速 rpm
转夹头(mm) Rotation Chuck (mm)	Ø2-10	Ø2-10	Ø2-13	Ø2-13
有效高度(cm) Valid Height (cm)	45	45	45	53
底盘尺寸(cm) Base Size (cm)	27x33	33x45	33x45	33x45
搅拌能力(L) Stirring Power (L)	H ₂ O, 1-20L	H ₂ O, 50L	100,000 cst, 5L	H ₂ O, 10L
电源 Power	100-240V 50/60Hz			220V 50/60Hz
整机尺寸(cm) Dimensions (cm)	27x33x83H	33x45x93H	33x45x100H	33x45x100H
操作注意 Notice during operation	扭矩显示款搅拌器显示实测转速非设定转速。搅拌调速应从慢到快, 预防瞬间过快产生危险。使用时注意避开导致搅拌棒抖动的共振转速区。 The Torque display model shows measured rpm, not the set rpm. Set rpm from slow to fast gradually to prevent accident caused by the sudden excessive speed. Avoid to set rpm in the resonance zone that causes the stirring rod shaking.			

搅拌桨 Stirrer Paddle

搅拌棒属个性很强的选件。为了达到合适的搅拌效果, 请根据搅拌溶液的特性、搅拌容量、转速、容器形状及用户具体使用需要来选配或定制。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, paddle shape & size shall be chosen or customized according to solution nature, capacity, opr. speed, vessel shape etc. To decrease the shake of stirring, rod shall be as short as possible and be supported at the stirring port of flask if possible.

搅拌棒形状 Paddle Shape	锚式搅拌棒 Anchor	旋片式搅拌棒 (2,3,4叶) Propeller (2,3,4 blade)	山形搅拌棒 W Shape	大叶搅拌棒 Leaf Shape	弧形搅拌棒 Curve
搅拌叶 Stirrer Paddle					
材质 Material	PTFE	PTFE	PTFE / SUS	PTFE	SUS
SUS杆径(未 含四氟套层) (mm) SUS Rod (not incl. PTFE sleeve thickness) (mm)	Ø6	Ø6, Ø10, Ø12	Ø6, Ø10, Ø12	Ø10, Ø12	Ø10, Ø12
翼径(mm) Blade OD (mm)	Ø90	Ø65, 72, 105, 125, Ø160, 210	Ø65, Ø85, Ø130	Ø150, 180, 220	Ø150, 180
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	<10L中等粘度 For stir of 5-10L mid viscid solution	10-50L大容量液体 For stir of 10-50L solution	5L高粘度半流体 For stir of 5L high viscid solution
适用搅拌器 Fit for Agitator	S512-60	S512-60	S512-60	S512-250	S512-250P

选购指南 — 选用SENCO的理由

PURCHASE GUIDANCE – WHY SENCO?

感谢您研读**生科仪器**样本
希望本页提示对您的选购有所帮助
Thanks for reading **SENCO** catalogue. Wish tips here
helping to your purchase decision.

市场价格差这么多？ BIG GAP on Prices?

同样的规格 相近的功能

Of same specification, product of good Chinese brand is only 1/10 ~ 1/3 price of big global brand. Then, why imitated ones for just saving a little extra without guarantee?

中国山寨产品
Imitated Chinese Products

\$

1 ~ 2
倍 TIEMS

中国一线品牌
Reputable First Class
Chinese Brands

\$

3 ~ 6
倍 TIEMS

国际一线品牌
Global
Benchmark
Brands

\$

外行看价格，内行看门道 What are the differences under price gap?

Whether or not having professional design on explosion proof, flame proof and corrosion proof system?

Safety



安全性

产品是否经厂家专业防爆、阻燃、防腐蚀系统设计，专业级别如何？

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

所用材料是否讲究耐腐蚀耐磨、耐高温耐老化；预防密封失效，阀门泄漏，电器失控等可靠性隐患？

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

设备及易损件是否便于装拆使用，甚至免于专业保养。

Parts interchangeable? Training/Guidance or professional service available to improve your productivity? Strong backup from the brand?

Service



后续保障

易损件常年提供，互换性佳。品牌产品可提供售后升级服务，专业培训和应用咨询。

选用SENCO的理由

WHY SENCO?

为保障顾客权益，购买时应指定
品牌或厂家，以防购到山寨无法维权
Please appoint manufacturer and brand at purchase to avoid
buying imitated products and safeguard your right.

- **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、金属零件分离丢落。
 - 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°C~200°C。
 - 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。
 - 企业信用资质等级AAA级，合作放心愉快。
 - 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.
 - Mirror effect glass flanges generated from fine processing technics guarantees good connection sealing, interchangeability, and no-damage assembly.
 - Special structure design fulfill no-tool disassemble and maintenance to glass connections. No pieces of screws, gaskets or small accessories fall during operation.
 - SENCO Valves resist various chemicals, have good cleaning level and are applicable under -50°C~200°C.
 - Factory is certified by ISO9001:2015 QMS.
 - Main series products have got CE certificate in 2011.
 - Senco is awarded AAA credit enterprise by government. Cooperation with SENCO will be a relief experience.
 - More than 30% products sold to international market yearly which is backed up by good product performance and team's strong remote support ability. Post-sales support is assured.





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