ESL

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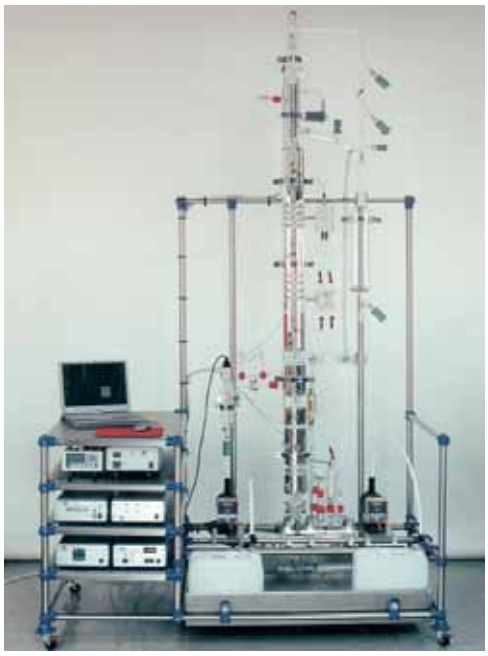
北京东方圣隆达科贸有限公司

Beijing East Sunland S & T Co., Ltd.

http://www.eastsunland.com

德国 NORMAG 公司是一家专业为用户提供实验室和中试规模的玻璃反应釜和分离装置的厂家， 与世界著名的 BAYER，BASF，ROCHE 等化工企业有着密切的合作，共同开发实验室反应、分离装置。积累了丰富的按照用户应用要求设计、生产、安装实验室装置的经验。

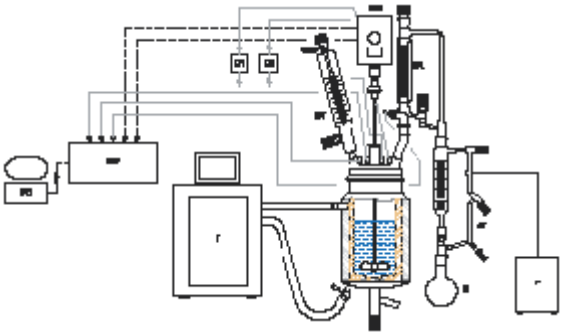


实验室连续蒸馏装置

应用领域：

-农用化学
-生物技术
-化学合成和工艺流程
-实验室及分析技术
-制药工业
-分离、真空技术

实验室短程蒸馏装置



提供成套装置：

-化学实验室反应釜
-实验室精馏设备
-短程、连续、薄膜蒸馏
-吸收、萃取、浓缩装置
-光化学反应器
-特殊接口、阀门
-高真空玻璃组件
-生物技术设备及部件
-科教仪器

实验室通用性 20 升玻璃反应釜

实验室连续常压/减压蒸馏装置

如需详更多细资料及技术支持，请联系我们

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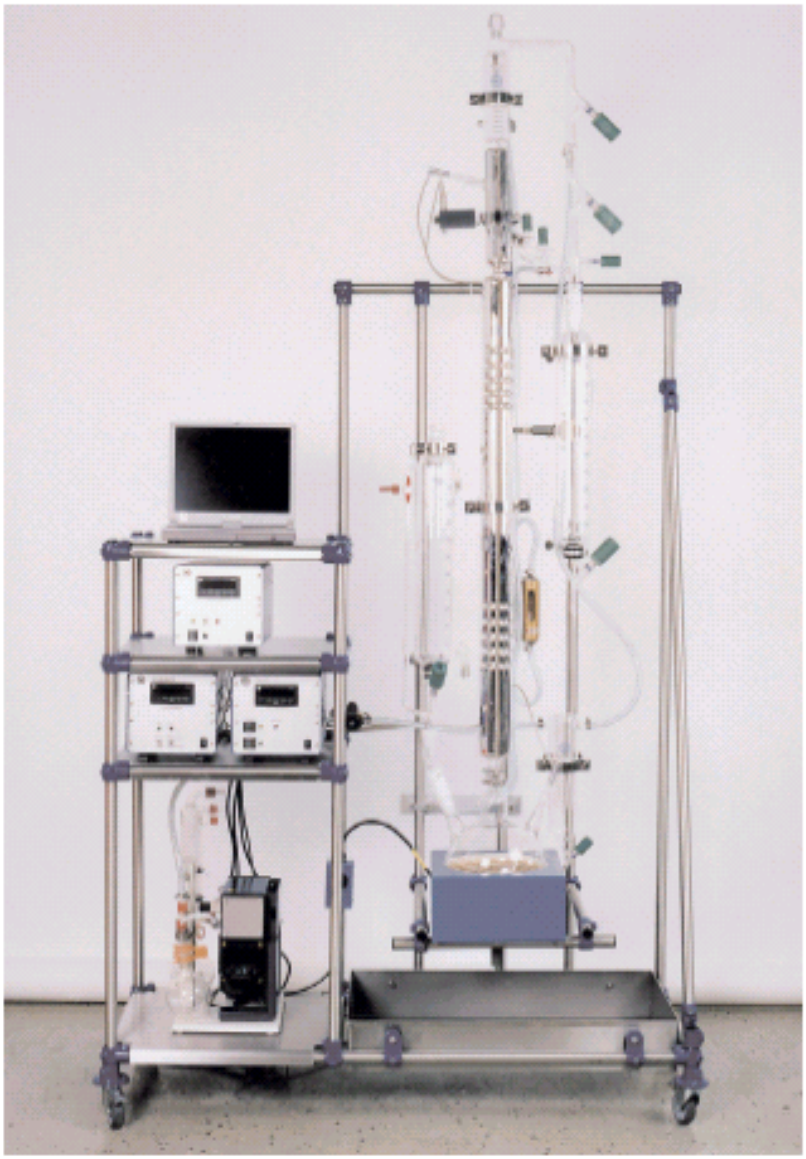
LABORATORY UNIT FOR DISCONTINUOUS DISTILLATION

GENERAL

This discontinuous distillation unit can be used for diverse purposes in laboratory. The unit can be employed for preparative work, for processing of solvents as well as for research and teaching. The reachable separation efficiency depends on the used column type and the throughput.



Pict. 1
Laboratory unit
for discontinuous distillation

The laboratory unit for discontinuous distillation offers the following advantages:

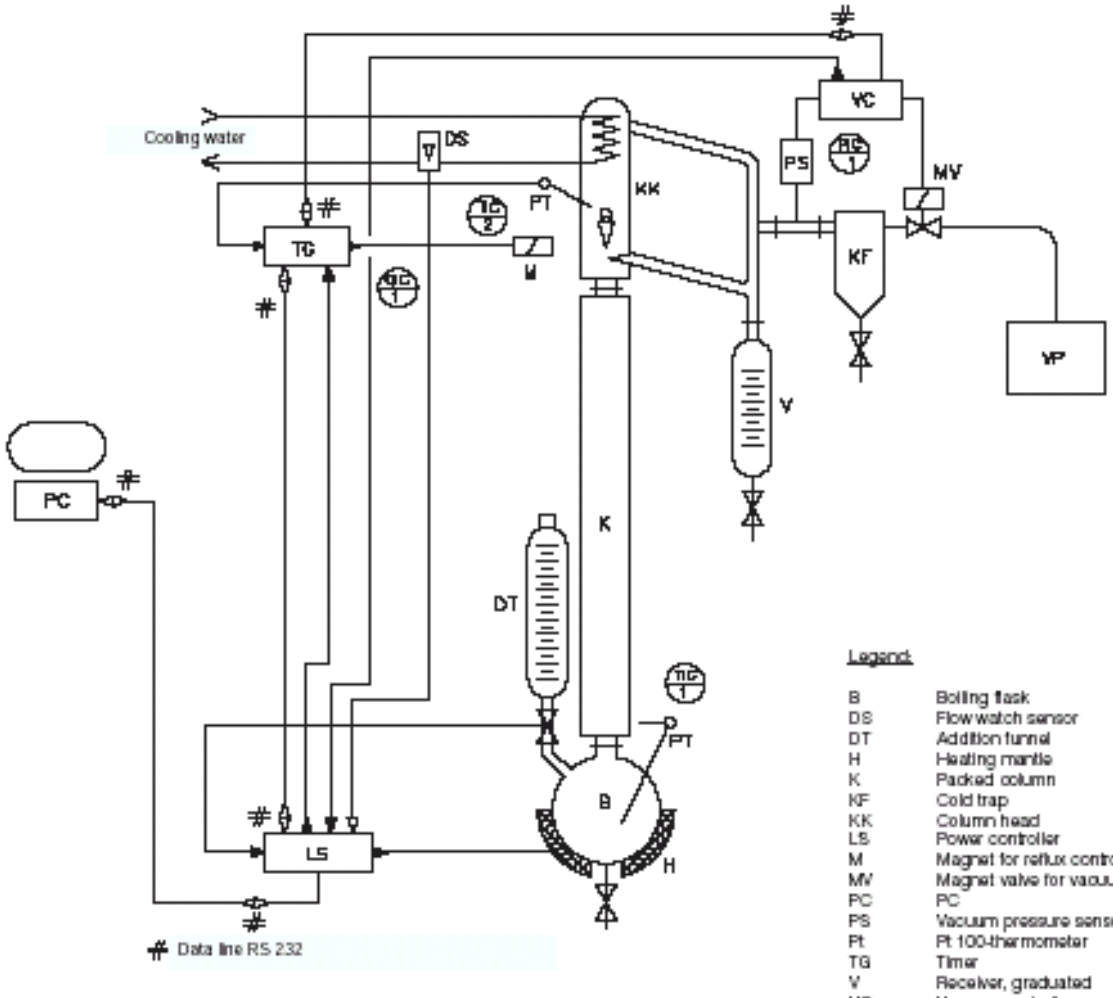
- Due to its small construction height, use in almost all laboratories is possible. In most cases, the unit can be fitted in a flue.
- All product-touching parts are made of Borosilicate glass 3.3 enabling the use of a wide range of substances.
- All single parts of the unit are fitted with standardised connections as NS ground joints, spherical ground joints or flanges.
- The unit can be operated under normal pressure and under vacuum.
- The operation temperatures can reach up to +200 °C.
- The unit has an high safety standard, but does not have an EX protection.

Construction of the discontinuous distillation unit

The boiling flask (B) with a reaction volume of approx. 2 litres has three necks. The packed column (K) DN 30 with a length of 600 mm is fitted onto the centre neck of the reaction vessel with ground joint NS 29/32. The column is fitted with a high vacuum jacket, is silver coated and has sight strips. The both side necks of the boiling flask with NS ground joints take the constant addition funnel (DT) with approx. 1000 ml volume, glass needle valve and vacuum equalising line and the Pt 100-thermometer. The packed column contains 4/4 Raschig rings. The column head (KK) with electromagnetic funnel, vacuum connection with ventilation and connection for Pt 100-thermometer is on the top of the column. The taken distillate is led into the graduated receiver (V) with a volume of approx. 1000 ml and outlet valve. The control of the permanent cooling water flow in the column head during the distillation is ensured per flow watcher sensor (DS) with control unit for switching off the heating. A heating mantle (H) with a capacity of 600 W serves for the heating of the distillation unit and a power controller (LS) supervises the heating capacity and the temperature for the boiling flask. The time impulse for outlet or reflux of the distillate are controlled with a timer (TG). A chemical resistant vacuum pump stand (VP) combined with a vacuum controller (VC) with pressure sensor (PS) and magnet valve (MV) ensure a constant working under vacuum lower than 10 mbar. The pre-fitted cold trap serves for the condensation of the gases. Power controller, timer and vacuum controller are fitted with a digital interface. This offers the possibility to connect the devices at one PC and to analyse the captured data of e.g. temperature and pressure with a suitable software.
The unit is mounted in a robust frame with safety bath and trays, all made of stainless steel.

Dimensions: L x D x H: 1600 x 600 x 2000 mm

We will be pleased to submit you a detailed offer.



Legend

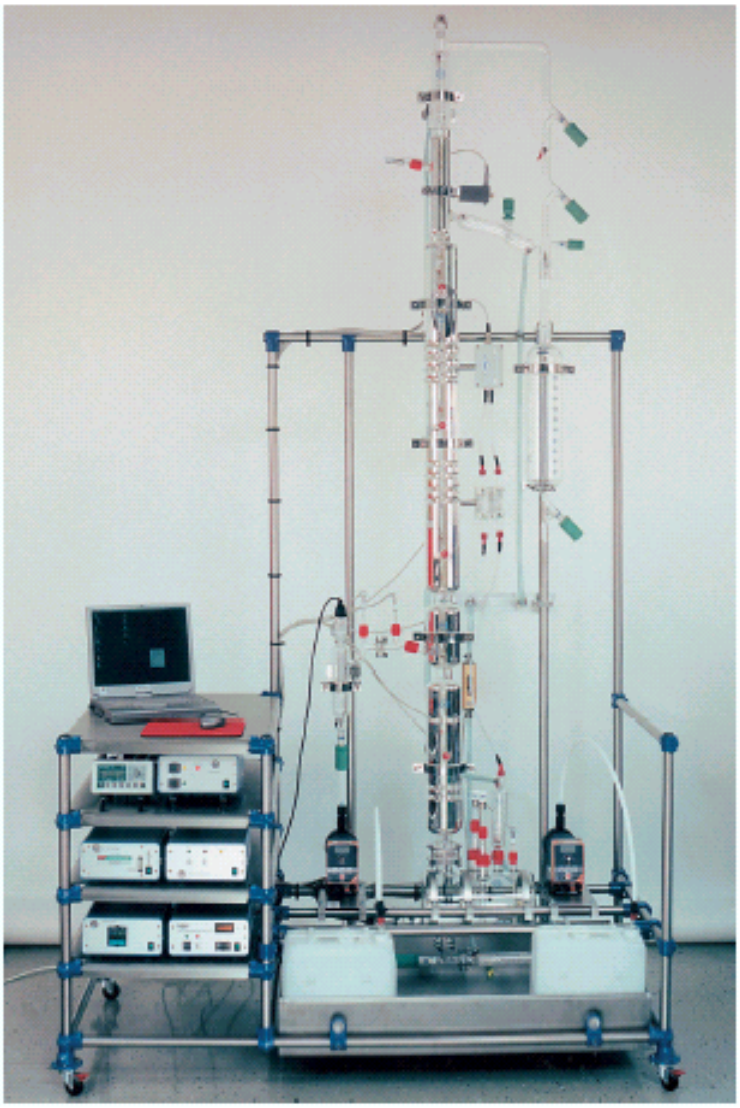
B	Boiling flask
DS	Flow watch sensor
DT	Addition funnel
H	Heating mantle
K	Packed column
KF	Cold trap
KK	Column head
LS	Power controller
M	Magnet for reflux control
MV	Magnet valve for vacuum locking
PC	PC
PS	Vacuum pressure sensor
Pt	Pt 100-thermometer
TG	Timer
V	Receiver, graduated
VC	Vacuum controller
VP	Vacuum pump

Pict. 2 schematic description

LABORATORY UNIT FOR CONTINUOUS DISTILLATION

GENERAL

This continuous distillation unit can be used for diverse purposes in laboratory. Its use reaches from processing of solvents, the application in research and teaching to process development and process optimising. The reachable separating efficiency depends on the used column type and the volume to be distilled.



Pict. 1
Laboratory unit
for continuous distillation

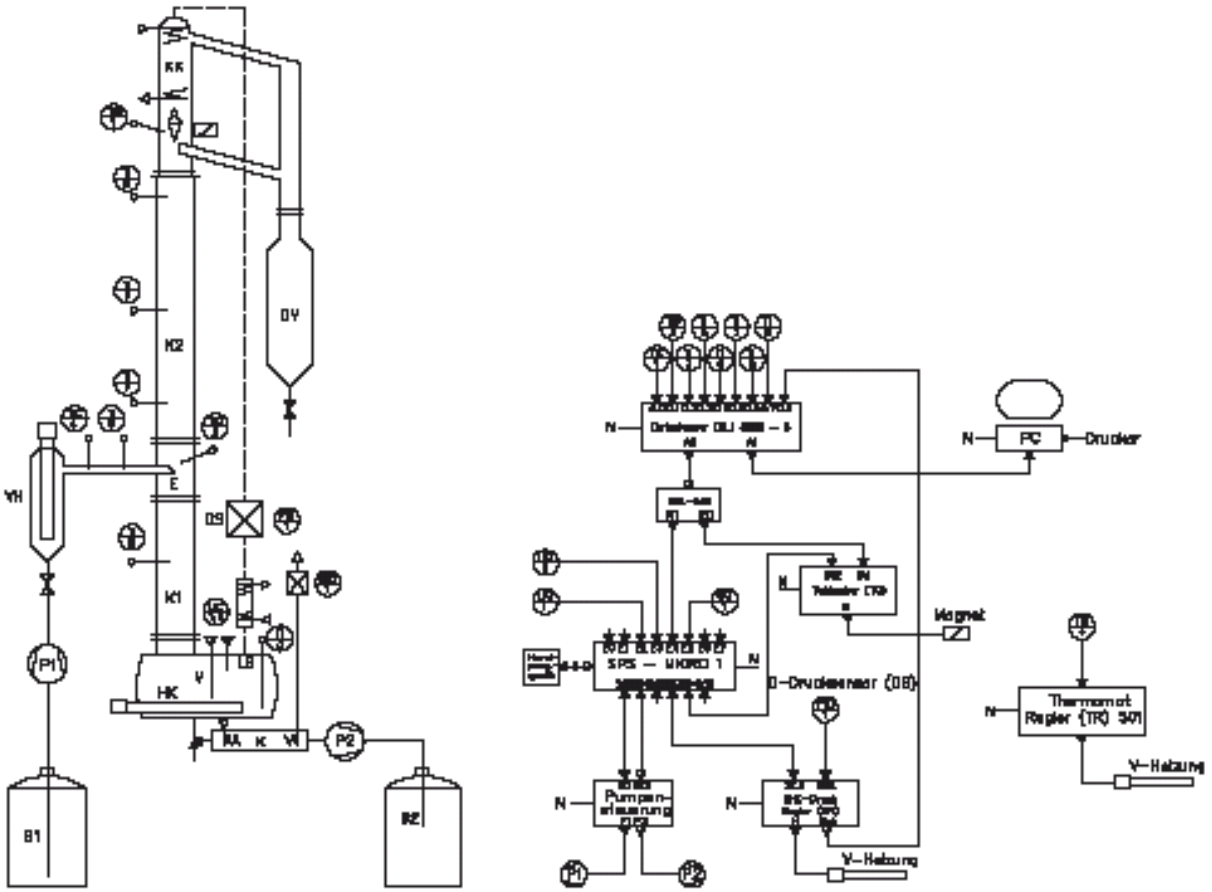
This laboratory unit offers the following advantages:

- Due to the small construction height, use in almost all laboratories is possible.
- All product-touching parts are made of Borosilicate glass 3.3 or PTFE, enabling the use of a wide range of substances.
- All single parts of the unit are fitted with standardised connections as NS-ground joints, spherical ground joints or flanges.
- The unit can be operated under normal pressure and under vacuum.
- The operation temperatures can reach up to 200 °C.
- The measurement and control technology is modularly constructed, so the unit can be manually or automatically operated.
- The unit has an high safety standard, but does not have an EX-protection.

Construction of the continuous distillation unit

The basic part of the unit is an horizontal circulating evaporator (V) with a capacity of approx. 2 litres, which is heated by a heating plug (HK). A condenser (K) is located below the evaporator for cooling the sump product during the drain off per pump (P2) into the vessel (B2). The unit consists of two packed columns DN 50 (K1) and (K2). Between these two columns the infeed part (E) is located which is fitted with a pre-heater. Above the column is an electromagnetic controlled column head (KK). During the operation of the unit, the start product is pumped per pump (P1) from the vessel (B1) into the pre-heater (VH) and flows via the infeed part into the column.
For taking the temperatures inside the evaporator, pre-heater, column and column head, Pt 100-thermometer are used. Light rod sensors (LS) ensure the monitoring of the fill level in the evaporator. A timer (TG), a differential pressure regulating valve (DR) and a power controller are used for measurement and control of the unit.
All measuring data are captured per data logger and analysed with a computer with belonging software.
The measurement and control technology provides the facility for a fully automatical operation of the unit. A flow rate sensor, integrated in the cooling water circulation, will switch off the unit if necessary.

We will be pleased to submit you a detailed offer.



Legend:

B1	- Vessel (start product)	HK	- Heating plug	P1, P2	- Pumps
B2	- Vessel (sump product)	K	- Condenser	T	- Pt 100-thermometer
DS	- Differential pressure sensor	KK	- Column head	TG	- Timer
DV	- Receiver	K1	- Lower column	TR	- Temperature controller
E	- Infeed part	K2	- Upper column	V	- Circulating evaporator
		LS	- Light rod	VH	- Pre-heater
		N	- Mains connection		

Pict. 2 schematic description

BEIJING EAST SUNLAND 公司简介

北京东方圣隆达科贸有限公司 （Beijing East Sunland S&T Co., Ltd.，简称 ESL）是一家专业从事科学仪器和设备销售及技术服务的公司， 是世界知名仪器制造商——美国 PARR、德国 RETSCH、德国 INNOVATIS、德国 NORMAG 等公司在中国的独家代理商。代理的产品广泛应用于石油化工、冶金、生物技术、制药、食品、农业化学和实验分析技术等领域。公司拥有资质和经验丰富的工程技术和计算机控制技术人才，愿意向用户共提供用户提供实验室化工过程专用设备的技术咨询，和用户共同努力，引进国外先进技术和实验室设备，并为用户建造集成相关装置和设备。

BEIJING EAST SUNLAND 经营产品

RETSCH	实验室样品破碎研磨仪、筛分仪、样品均分和缩分仪、均化器；
PARR	实验室压力搅拌和非搅拌反应釜、玻璃釜、中试反应装置；氧弹量热仪、高压消解和微波消解容器、特殊样品燃烧制备容器；细胞压力破碎仪；加氢反应器；
INOVATIS	Cedex 全自动细胞活性和计数分析仪、Cellscreen 全自动细胞图像分析仪；
NORMAG	实验室玻璃反应釜 减压连续蒸馏分馏装置,实验室高真空系统，实验室化工工艺流程装置；
其他	均质器，真空泵，隔膜压缩机，加热和低温循环器，HASKEL 气体增压机、液体计量泵、KINAMATICS 实验室均质器等。

BEIJING EAST SUNLAND 技术服务

ESL 拥有化学、化学工程、计算机自动化等专业的高级技术人才，以雄厚的专业技术力量向用户提供优质的售前和售后服务。包括：技术讲座，技术方案咨询，应用设备选型；非标成套设备方案推荐及系统集成；引进国际先进实验室工艺流程和测试技术；现场设备仪器安装调试及人员培训；向用户提供使用过程中仪器维修和技术咨询服务。

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