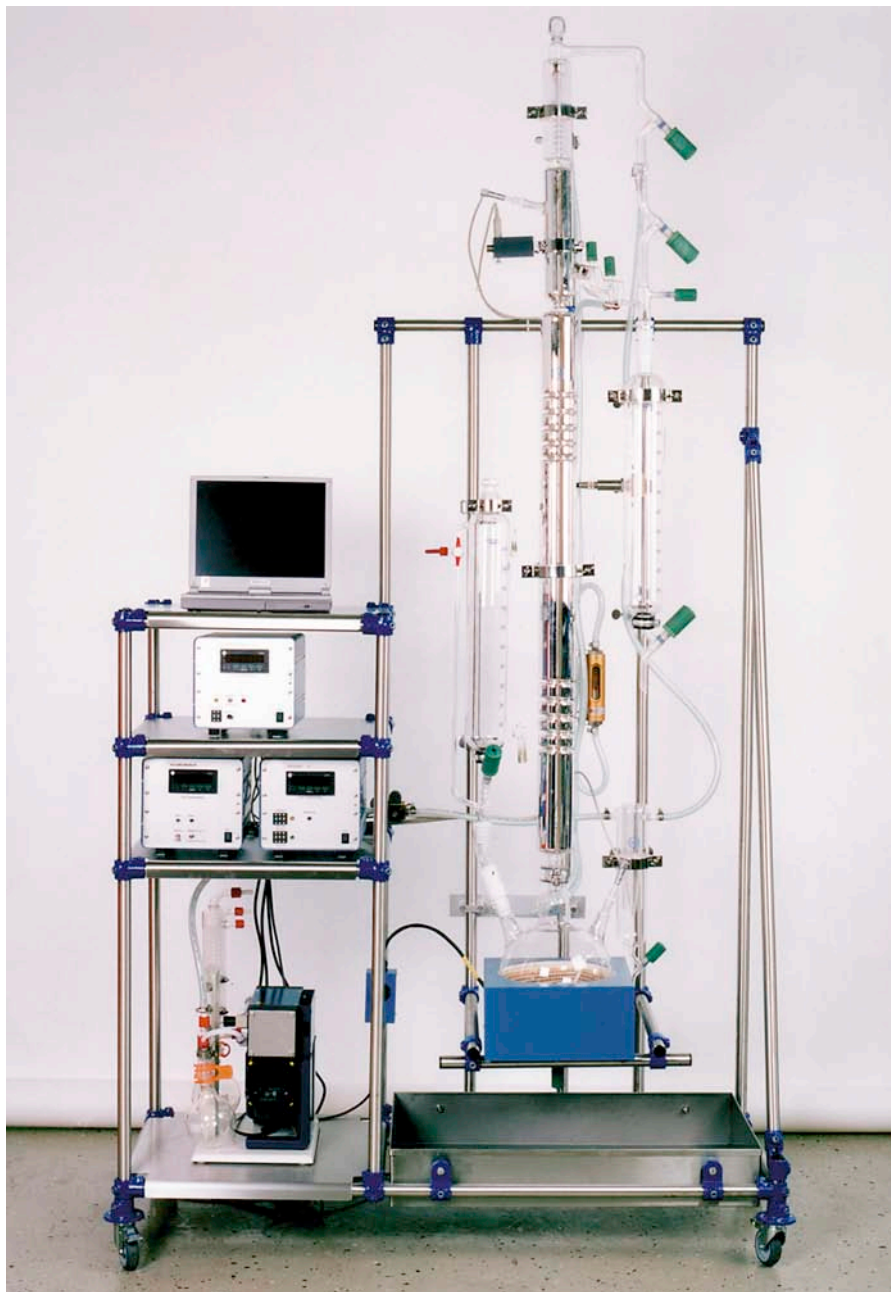


LABORATORY UNIT FOR DISCONTINUOUS DISTILLATION

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 a high safety standard, but does not have an EX protection.

Construction of the discontinuous distillation unit

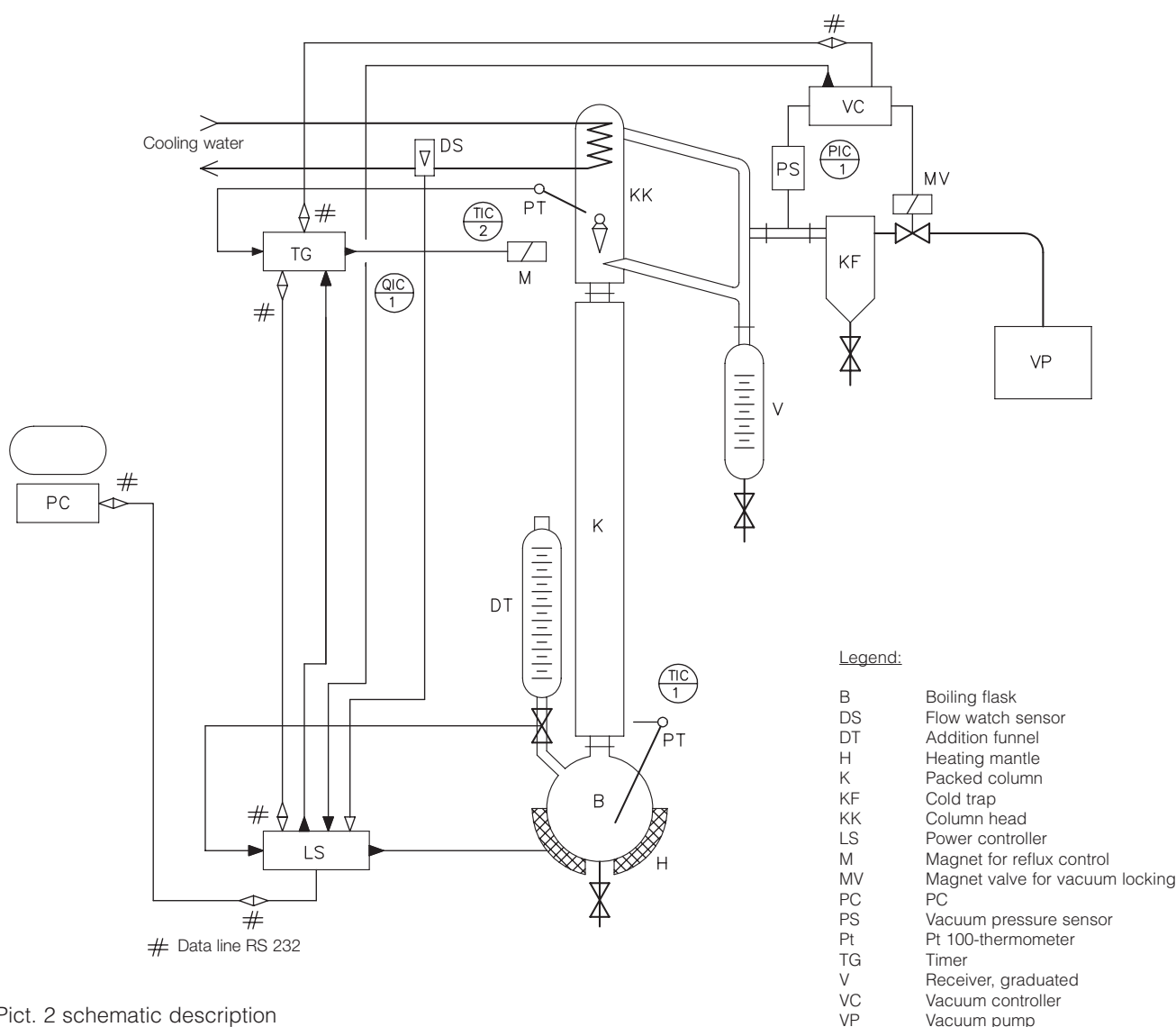
The boiling flask (B) with a reaction volume of approx. 2 litres has three necks. The packed column (K) DN 30 with a length of 600 mm is fitted onto the centre neck of the reaction vessel with ground joint NS 29/32. The column is fitted with a high vacuum jacket, is silver coated and has sight strips. 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 4x4 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 impul-

se 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.



Pict. 2 schematic description