PILODIST®

laboratory & process technology

PILODIST® 105

www.pilodist.de

Tel: ++ 49 (0) 2225 955910 *Fax: ++ 49 (0) 2225 9559111* *e-mail : info@pilodist.de*

PILODIST GmbH
Eichelnkampstraße 2
D-53340 Meckenheim

Eingetragen AG Bonn HRB 12941
Sitz: Bonn
Managing Director K. Jürgen Fischer
USt.-ID.-Nr. DE 813 408 398

Bankers:
Sparkasse KölnBonn
IBAN DE 05 3705 0198 0033 3023 65 BIC: COLSDE33XXX
Deutsche Bank AG
IBAN DE 46 3707 0060 0333 2673 00 BIC: DEUTDEDKXXX

PILODIST® 105

Versatile distillation apparatus with high separation efficiency. Suitable for solving difficult separation problems and for the production of pure substances, aromatic compounds of high molecular weight, fatty acids etc.

The system is supplied with a concentric-tube-column and optional a wire gauze trickling column, which can alternatively be applied according to requirements.

With concentric-tube-column. Especially versatile unit with highest separation efficiency and up-to-date processor control.

The special advantages of the concentric-tube-column are:

- extremely low pressure drop
- highest separation efficiency
- minimum hold-up
- all-glass construction
- static design (no rotating parts inside the column)

The separation efficiency in the concentric-tube-column is based on the physical principle of the mass transfer between vertically rising vapour and the spirally trickling film of liquid in a concentric annular gap made of glass. The column consists of two concentrically melted-in, especially selected and calibrated glass tubes.

The concentric-tube-column is perfectly suitable for the separation of temperature sensitive substances.

.
Gentle distillation by temperature controlled oil bath with product circulation. Operation range from ATM up to vacuum.

Equipped with processor based distillation control device DCD4001 with heating controller for oil bath and heating mantle, automatic reflux control, vacuum controller, fraction collector control as well as safety devices.

Technical Data

Operation Temperature:	20° - 250° C
Separation Efficiency:	up to 90 theoretical plates, depending on load
Flask size:	up to 20 L
Operating Pressure:	1000 - 0.1 mbar
Material:	glassware made of borosilicate glass
Mains Supply:	230 V, 50-60 Hz
Dimensions (w x h x d) approx.:	1,00 x 2.50 x 0.60 m

The system consists of:

1 system basis for assembly of all unit parts, with all accessories

1 oilbath or electrical flask heating device for 20 L flask, complete with integrated PT100 temperature sensor build in a aluminum housing with stirrer motor mounted on a manual lifting platform

1 glass distillation flask 20 l, with 3 connections

1 flask temperature sensor PT-100 for flask temperature

1 wire gauze trickling column DN25, separation length 1235 mm, mantle length 1365 mm, connection flask 41/25, connection head NS29 with silvered vacuum jacket

1 concentric-tube-column, all-glass construction, approx. 80-100 theoretical plates, hold-up approx. 1.5 ml, especially suited for temperature sensitive or aggressive products, throughput approx. 0.1-1.5 l/h, DN 25, connection joints 41/25

1 head temperature sensor PT-100 for head temperature

1 tower heating mantle with integrated measuring sensor Pt-100

1 column head for automatic vapour division, with vacuum jacket, valve plunger and solenoid coil for reflux control

1 distillate final receiver, made of glass with 1 l volume, with ventilation cock and vacuum connection with stop cock

1 **Distillation control Device DCD4001**
universal computer-controlled unit for PILODIST distillation systems as well as for an upgrade of existing distillation systems. The unit is designed for operation and control of temperature, vacuum, reflux divider, limit and alarm system as well as fraction collector. The service area is password protected and provides tools to change the controller settings. It also provides tools for the calibration of vacuum- and temperature sensors. All actual parameters are displayed continuously as a graphical trend (curves) during the distillation process to inform the operator about the actual status. The control system is based on a multifunctional serial bus system, connected to a PC with our new and most modern windows based operation software.

The DCD 4001 is delivered with operation software, a PC and the Interface box as central connection point for all sensors.

Options:

1. Accessories-for vacuum operation

2. Automatic Fraction Collector

3. Pressure drop measuring (in combination with packed column)

4. Circulation cooler