

PETRODIST® 100 CC (ASTM D-2892)	
Flask size	2 – 50 l
Operation temperature	up to 350° C
Operation pressure	vacuum down to 1 Torr
Final cut temperature	up to 400° C AET
Mains Supply	3 x 208 – 260 V, 50 Hz (60 Hz upon request)
Dimensions (w x h x d) approx.	1,45 x 3.00 x 1.00 m

Turn-key processor controlled crude oil distillation system for fully automatic operation fully conforming to ASTM D-2892. The distillation performs automatically from the gas cut (IBP) to the pre-selected end point without any interruptions and any interventions.

Complete evaluation and distillation report incl. TBP-curve.



PETRODIST® 200 CC (ASTM D-5236)	
Flask size	1 – 20 l
Operation temperature	up to 400° C
Operation pressure	vacuum down to 0.1 Torr
Final cut temperature	up to 650° C AET
Mains Supply	3 x 208 – 260 V, 50 Hz (60 Hz upon request)

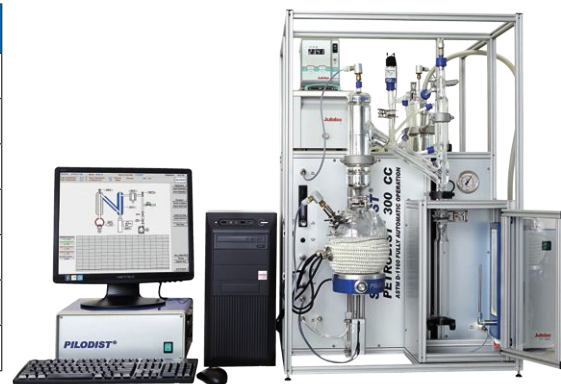
Turn-key processor controlled crude oil distillation system for fully automatic operation fully conforming to ASTM D-5236 (Potstill method) for unattended operation. Data station for data input as well as for display and print out of all operation parameters, distillation results and distillation curve.

The distillation from the start to the pre-selected or detected end point follows an automatic vacuum reduction process.

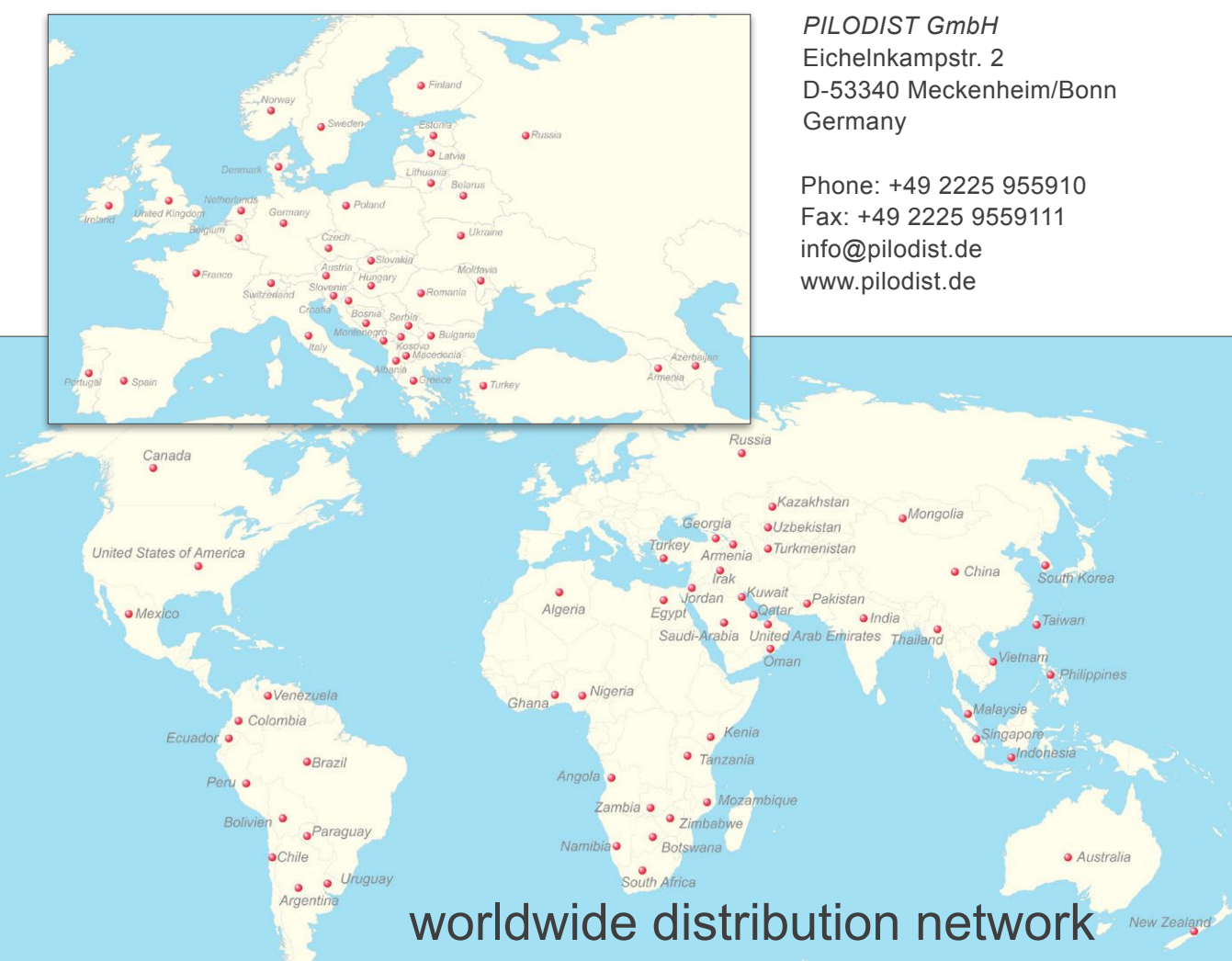
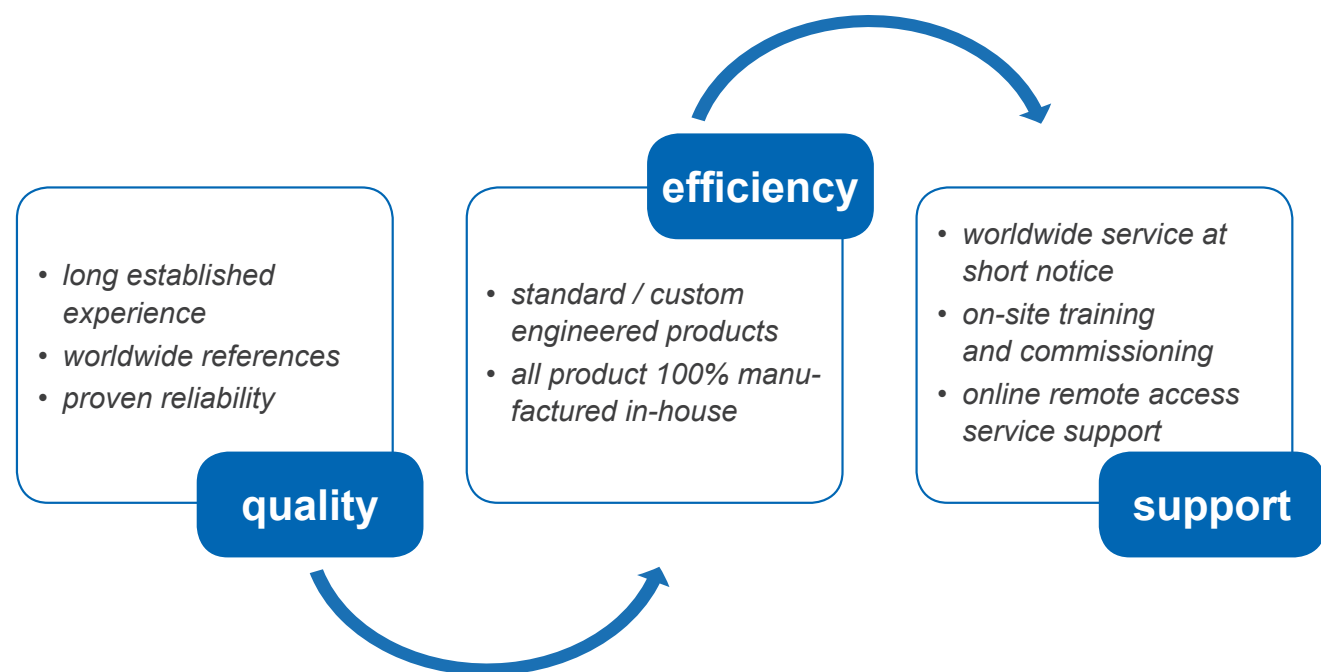


PETRODIST® 300 CC (ASTM D-1160)	
Flask size	500 ml
Flask Charge	200 ml
Operation temperature	up to 400° C
Operation pressure	vacuum down to 1 Torr
Final cut temperature	up to 570° C AET
Mains Supply	208 – 260 V, 50 Hz (60 Hz upon request)
Dimensions (w x h x d) approx.	0,65 x 0,97 x 0,65 m

Turn-key fully automatic crude oil distillation system fully conforming to ASTM D-1160 for the determination of boiling ranges of crude oil products under vacuum.



PILODIST®
laboratory & process technology



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laboratory & process technology

Product Overview

Laboratory and process technology - made in Germany



Vapour-Liquid-Equilibrium Apparatus
Distillation Systems/Pilot Plants
Crude Oil Distillation Systems
Thin-Film-Evaporation
Separation by Extraction
Ozon Generation

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PILODIST® VLE 100 Vapour-Liquid-Equilibrium Apparatus

The model VLE 100 is designed for operation under atmospheric, vacuum and overpressure conditions.

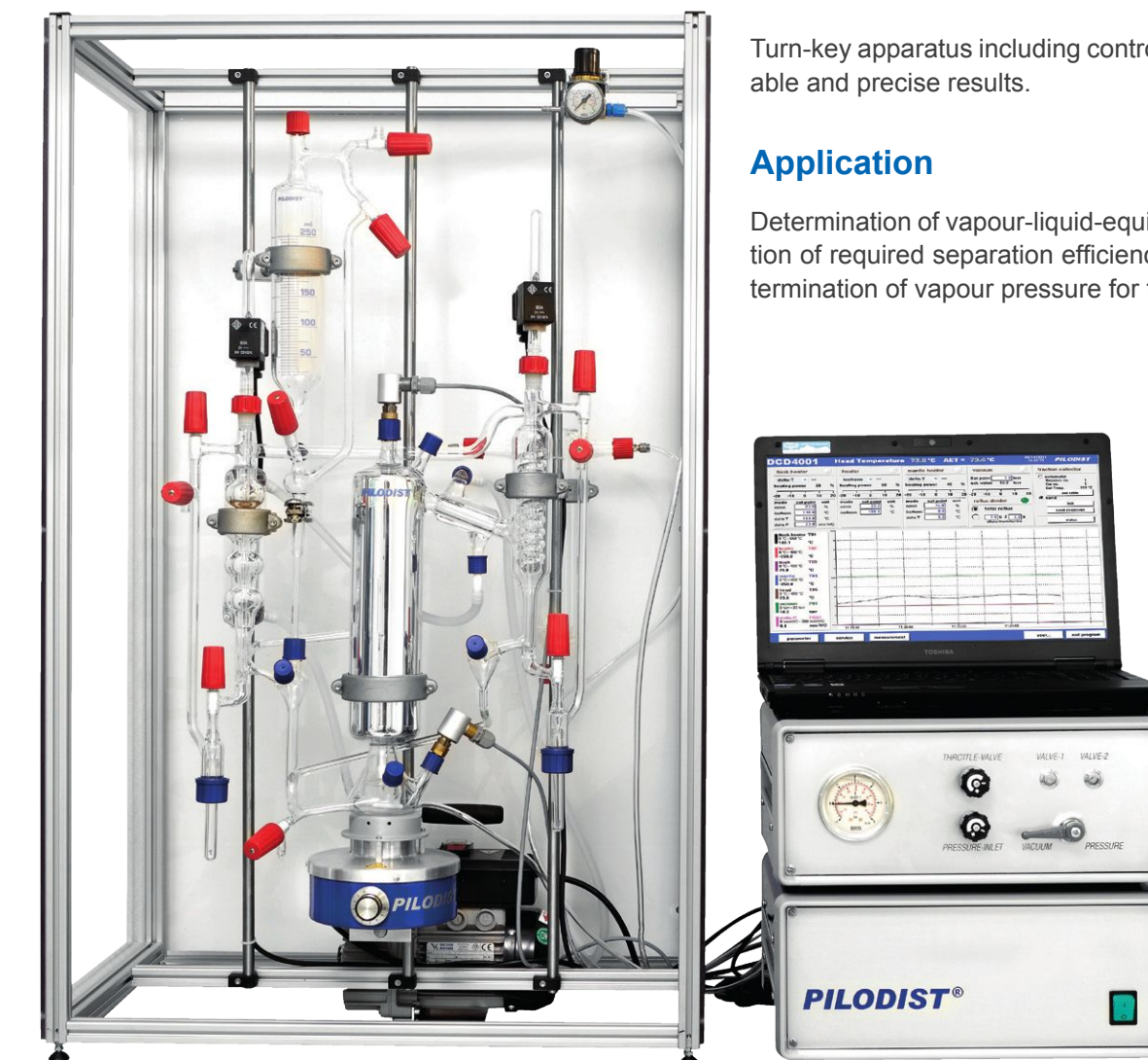
The vapour-liquid phase equilibrium of mixtures with two or more components are an essential basis for determining the required theoretical number of separation stages and other distillation conditions in distillation systems.

A special advantage of the apparatus is that in case of mixtures with miscibility gaps, a direct gaseous sampling of the vapour phase is possible by means of another sampling port.

Turn-key apparatus including control system for reliable and precise results.

Application

Determination of vapour-liquid-equilibria for calculation of required separation efficiency as well as determination of vapour pressure for technical datas.



PILODIST® VLE 100	
Operation temperature	250° C
Operation pressure	– ATM – vacuum 1000 – 1,0 mbar – overpressure up to max. 3000 mbar abs.
Charge quantity per measurement	approx. 100 ml
Mains Supply	230 V, 50/60 Hz
Dimensions (w x h x d) approx.	1,00 x 0,90 x 0,50 m

PILODIST® 104 Versatile distillation system

Turn-key versatile fractional distillation system with very high separation efficiency.

Suitable for solving difficult separation problems of temperature sensitive substance and for production of pure substances, aromatic components of high molecular weights as well as fatty acids.

The system is supplied with 2 different types of distillation columns (packed column as well as all-glass concentric tube column) with highest separation efficiency.

Single receiver fraction collection or different fraction collectors are available. Distillation process control of all important distillation parameters by distillation controller DCD 4001 connected to a laptop.

The most important aspect for a distillation system is the type of column to be used. Depending on the characteristics of the product to be distilled as well as the mode of operation, PILODIST® is offering different types of columns: »Concentric Tube Columns«, »Bubble Cap Tray Columns« and packed columns.

PILODIST® 104 versatile distillation system	
Operating temperature	20° – 250° C
Separation efficiency	up to 100 theoretical plates
Flask size	1 – 20 L
Operation pressure	1000 – 1 mbar
Throughput	up to 1000 ml/h depending on column type
Fraction collector	6 x 1 L or 9 x 250 ml receivers
Mains Supply	3 x 208 – 260 V, 50 Hz (60 Hz upon request)
Dimensions (w x h x d) approx.	1,00 x 2.50 x 0.60 m

PILODIST® 107 solvent recovery unit in safety cabinet	
Operating temperature	max. 300° C
Separation Efficiency	up to 60 theoretical plates
Flask size	2, 6, 10 l or 20 l
Operation pressure	atmospheric (optional vacuum)
Load range	approx. 1500 ml/h
Separation length	500 mm
Dimensions (w x h x d) approx.	1.00 x 2.10 x 0.60 m



PILODIST® HRS 500 C micro- / semi-micro distillation with CTC columns	
Operating temperature	20° - 250° C
Separation efficiency	up to 90 theoretical plates
Flask size	50, 100, 250 ml
Operation pressure	atm ... 0.1 mbar depending on vacuum access.
Charge quantity	10 - 150 ml
Mains Supply	208 - 260 V, 50 Hz (60 Hz upon request)
Dimensions (w x h x d) approx.	1.20 x 1.40 x 0.50 m



PILODIST® manufactures the world famous concentric-tube-column (CTC), an especially versatile distillation column with highest separation efficiency.

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.

PILODIST® DCD4001 distillation control device	
Mains Supply	208 – 260 V, 50 Hz (60 Hz upon request))

Computer-controlled device for distillation systems. For operation and control temperature, vacuum, reflux divider, limit and alarm system and fraction collector. The DCD 4001 includes the operation software, a laptop and the Interface box as central connection point for all sensors.

**PILODIST® FilmDist TF 650 thinfilm evaporation**

Universal apparatus for thinfilm evaporation for lab-scale and pilot-scale application, complete with all necessary accessories for continuous operation. Rotary thinfilm evaporator with thermostat mantle and external condenser.

Application

The model TF 650 is specifically designed for universal lab-scale and pilot-scale application and is supplied with all necessary accessories for the continuous operation.

PILODIST® FilmDist TF 650 thinfilm evaporation	
Operating temperature	200° – 250° C
Operation pressure	ATM and Vacuum 10 – 0.1 mbar
Throughput	approx. 0.5 – 10 l/h
Evaporation size	6.5 dm²
Mains Supply	208 – 260 V, 50 Hz (60 Hz upon request)
Dimensions (w x h x d) approx.	1,20 x 1.80 x 0.60 m



PILODIST® FilmDist SP 200 universal lab-scale	
Operating temperature	200° C – 250° C
Operation pressure	0.1 – 760 Torr, depending on vacuum sensor
Feed range	approx. 50 – 1000 ml/h
Evaporator surface	200 cm², short path
Feed vessel	250 ml
Product receivers	2 x 250 ml
Mains supply	208 – 260 V, 50 Hz (60 Hz upon request)



Short path evaporation
SP 500 for throughput up
to 10 l/h available.

OGF reliable laboratory ozone generators

for ozone production from 0,05 ... 50 g/h especially suited for reliable laboratory and pilot plant application; for oxygen and dried air as feedgas. High ozone concentration in oxygen, cooling by air. Adjustable ozone concentration between 5 and 100 %.



PILODIST® PILOEX SBC 01 micro-extraction system	
Temperature range	-30° to +150° C
Speed range	20 - 1700 RPM
Throughput	0.1 - 1 l/h per phase
Mains Supply	208 – 250 V, 50 Hz (60 Hz upon request)
Dimensions (w x h x d) approx.	850 x 2400 x 450 mm

Lab-scale unit with MICRO-EXTRACTION COLUMN SBC 01 for smallest charge quantities and continous operation. The extraction spinning-band column made of glass is excellently suited for laboratory puposes. Its special advantages are low throughputs at continous operation and low hold-up. The throughput can be adjusted between 0,1 ... 1 l/h. The variable speed can be controlled between 20 ... 2000 RPM with digital display. All parts which will come into contact with the product are made of glass or PTFE.



PILODIST® PILOEX SLS 250/SR mixer-settler for liquid-liquid extraction	
Settler volume	250 ml
Number of stages	4; 6 or 10
Throughput	0.2 – 5 l/h
Mains supply	208 – 250 V, 50 Hz (60 Hz upon request)
Stage efficiency	approx. 95 %
Dimensions (w x h x d) approx.	1250 x 1500 x 1000 mm

Applications: metal salt extractions, liquids with low surface tension, difficult coalescence in dispersed phase, variation of the resident time for phases in the extraction stages, reactions occuring during the extraction procedure, considerable variations of the density during extraction.



Glassware is a fundamental important component for efficient operation of laboratory distillation systems. PILODIST® has its own glass-blowing workshop where a team of highly skilled glassworkers are producing highest quality technical glassware and spare parts. PILODIST® glassware has a

worldwide reputation for top quality and conformity to test specifications. All glass products are produced from borosilicate glass which is resistant to high temperatures and the most suitable raw material for our systems.

