

## SPECIFICATION

<b>Methods</b>	ASTM D86 (group 0,1,2,3,4), D1078, D850, IP195, IP123, DIN51751, NFM07-002, EN ISO3405, JIS K2254, ISO918; ASTM D189, D524, EN ISO 10370*
<b>Operator support features</b>	<b>pre-scan:</b> the volume of the sample-filled receiving cylinder is checked and corrected to 100% <b>reminders and hints:</b> an array of hints and reminders helps reduce the operator error <b>validation of results:</b> real-time information on compliance with set methods <b>bracket:</b> a special bracket allows you to install the Engler flask strictly vertically without additional effort
<b>Heating system</b>	low-voltage heating system with automatic positioning built-in fan to achieve a safe temperature after the experiment is completed
<b>Condenser</b>	compressor-type liquid-free cooling system temperature range: 0...+80 °C; resolution: 0.1 °C
<b>Receiving cylinder chamber</b>	compressor-type liquid-free cooling system temperature range: 0...+60 °C, resolution: 0,1 °C corrosion resistant, VOC removal
<b>Vapor temperature</b>	Pt100, Class A, glass, built-in chip for automatic identification and storage of calibration data automatic correction of atmospheric pressure temperature range: 0...+450 °C, resolution: 0.1 °C
<b>Sample volume measurements</b>	optical system with a system of movable optical barriers measurement range: 0...103 ml; resolution 0.03 ml or 0.1 ml; accuracy up to ± 0.1 ml
<b>Atmospheric pressure</b>	built-in pressure sensor measurement range: 30...110 kPa, resolution: 0,1 kPa
<b>Fire extinguishing system</b>	built-in fire extinguishing system with IR sensor as detector connecting a CO <sub>2</sub> or N <sub>2</sub> source with a pressure of 6...12 bar
<b>Condition monitoring system</b>	checking the diameter of the installed plate, sample temperature sensor, sensor for closing the door of the heating chamber, cleaning the condenser, sensor for closing the door of the chamber of the receiving cylinder, monitoring the installation of the receiving cylinder
<b>Operation conditions</b>	air temperature: +10...+35 °C air humidity: 10...80% relative air humidity at 35 °C
<b>Power supply</b>	100-240V, 50/60 Hz, 1400 W
<b>Dimensions (WxDxH), weight</b>	(400x550x680) mm, 45 kg
<b>Connections</b>	1 × Ethernet, 4 × USB, Wi-Fi
<b>Accessories</b>	dry point sensor, Engler flask 100, 200 and 250 ml, barcode scanner, printer, keyboard, 200 ml receiving cylinder, external "traffic light" indicator

Due to the constant developments in the analyzers construction, technical characteristics may change without prior notice.

\*DIST-A1 can prepare the 10% bottom residue for EN ISO 10370

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# DIST-A1

Fully automated atmospheric distillation tester  
for crude oil and petroleum products

ISO 3405  
ASTM D86 (0-4)  
ASTM D1078  
ASTM D850



FRESH SOLUTIONS FOR YOUR LAB

- The built-in program-controlled compressor cryostat allows fast adjustments and accurate temperature maintenance
- Large, color, graphic touch-screen display
- The ability to create custom distillation programs to specify non-standard test parameters
- Measurement of both the lower and upper meniscus of the liquid in the receiving cylinder
- The closed cooling system provides quick and accurate temperature regulation without the need for coolant replacement
- Mercury-in-glass thermometer simulation through the use of a Pt-100 temperature sensor in a glass housing
- Built-in pressure sensor for accurate atmospheric pressure measurement during the analysis
- Automatic plate diameter determination

## DIST-A1: Test principle

During the test, the sample is placed in a distillation flask and distilled exactly according to the conditions specified in the standards. The sample is heated and the generated steam is cooled in the condenser and collected in a graduated cylinder. All results, both analysis and timing, are automatically recorded during the test.

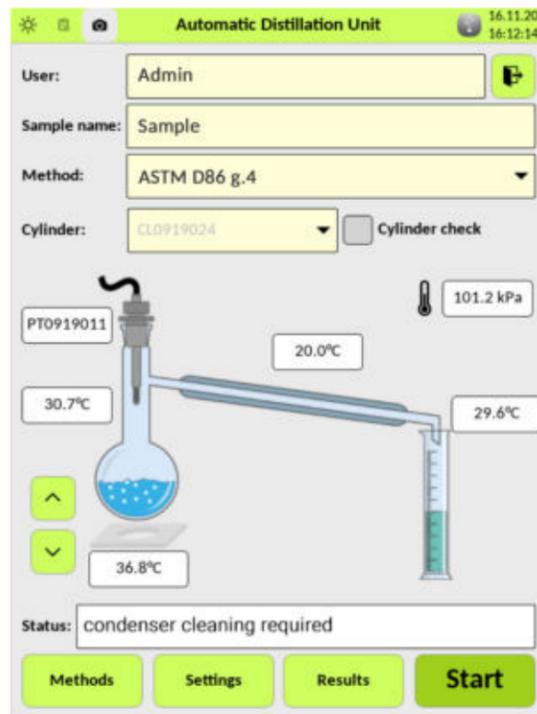
## Compressor-type liquid-free cooling system

Simulates a manual instrument as accurately as possible, allows you to stably maintain the required temperature of both the condenser and the receiving chamber, reliable and does not require maintenance during the entire service life.

## Thermostatted receiving cylinder compartment

The temperature of the corrosion-resistant receiving chamber can be regulated from 0 to +60 degrees Celsius. Due to the optimal design, the receiving

chamber quickly reaches the required temperature. To improve the accuracy of volume measurement in the receiving cylinder, a sensor is built into the receiving chamber, which makes it possible to automatically identify the receiving cylinder and recognize its unique calibration data.



## Large touchscreen display and integrated data processing system

Allows you to automatically control the process and perform the processing of the necessary data with subsequent transfer to LIMS and to external media. This system visualizes the experiment process through a graphical representation of the parameters. The intuitive interface with many prompts eliminates operator error.

## Heater temperature control

Precise temperature control ensures optimum standardized distillation rates, even for difficult mixtures. The heater temperature control system maintains the distillation rate between 4 and 5 ml per minute in accordance with ASTM D86. The final temperature adjustment for distilling off the last 5 ml of distillate is fully automatic.

## Built-in pressure sensor & condenser

Allows you to automatically calculate the correction for atmospheric pressure.

Condenser cleaning control eliminates user error, which guarantees accurate boiling point determination.

## High level of security

The DIST-A1 meets the highest safety standard in its class and corresponds to the demands of the latest version of ASTM D86. The device is equipped with an automatic fire extinguishing system that can be connected to an N<sub>2</sub> or CO<sub>2</sub> gas supply. The password management system provides selective access to the instrument's functions.

## A set of methods for determining the fractional composition of oil and oil products

The device software contains ample opportunities: these are both current standards and an unlimited number of user methods with additional customization options. Existing standards include ASTM D86, ISO 3405, as well as specific methods for the distillation of hexadecane and toluene.

## Pt100 temperature sensor in a glass housing with an integrated chip

Allows you to fully simulate a mercury thermometer, and the built-in chip allows you to automatically identify the sensor used and load calibration parameters. This solution eliminates operator error when inputting adjustments.

## Heating chamber with the possibility of both automatic and manual table movement

The developed design allows you to control the position of the heating chamber both in manual mode (using a mechanical handle) and in a fully automatic mode. The heating chamber has an automatic function that allows for easy plate identification, which eliminates operator error and guarantees device safety.

## Special bracket

The design of the flask bracket makes it easy to position the Engler flask strictly vertically. The design prevents the possibility of oil product discharge in the event of an emergency.

