Anton Paar

Distillation Analyzer

Diana 300
Diana 700

Perfection
from the First Drop

Distillation at atmospheric pressure is a crucial test to maximize the yield of different petroleum products out of crude oil based on their boiling range characteristics. That's where Diana – Anton Paar's distillation series – comes in. It's the most convenient solution for performing high-precision atmospheric distillation tests on petrochemical products, giving you Perfection from the First Drop.

Diana 700 AND Diana 300 FOR REFINERIES
GET THE MOST OUT OF YOUR CRUDE OIL

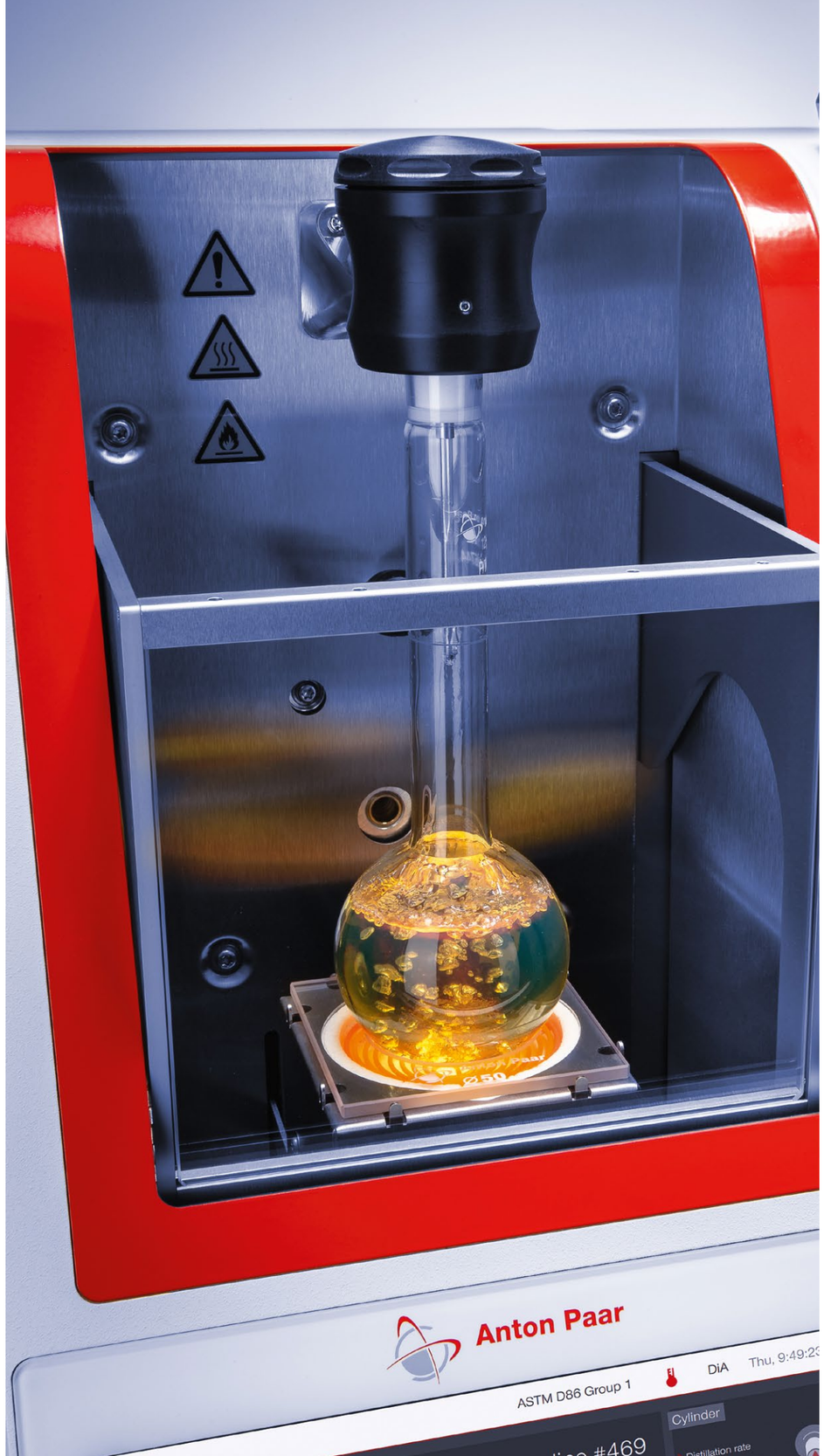
Atmospheric distillation is one of the most important testing methods in the process of refining crude oil into fuels or other petroleum products. Knowing the boiling range of each distillation cut makes a big financial difference since it allows you to increase the output from the distillation tower and thus the volume of your final products. The Diana series provides exactly the accuracy you need to analyze your products and maximize the yield.

The testing procedure and results comply with ASTM D86, ASTM D850, ASTM D1078, ISO 3405, IP 123, IP 195, JIS K 2254, and GOST 2177.

Diana 700 FOR TESTING LABS
COMPLETE MORE DAILY TEST RUNS

Testing just got easier. Software-guided testing procedures, predefined methods with settings for all relevant standards, and smart heater regulation all prevent errors before and during your measurements.

This means you don't have to repeat your measurements multiple times. At the end of the day, you can process more customer orders per day and bring in more revenue for your business.



Work with up to **17 monitored conditions**

Draw on up to **40 preconfigured test methods**

Store up to **4,000 measurement results**

Enjoy the **10.1" touchscreen** with **1.67 million display colors**

Leverage a **35 °C/min heating rate** and a **9 °C/min cooling rate** with the condenser tube

FIND OUT MORE

www.anton-paar.com/apb-diana

Smart, Strong, Safe
Features for Top Performance

A CONVENIENT MULTI-PLUG WITH INDESTRUCTIBLE TEMPERATURE SENSOR
To provide a smooth operator experience and increase Diana 700's usability, we combined the vapor temperature sensor with the flask holder. The result? A multi-plug equipped with an indestructible metal temperature sensor or a classic glass sensor. Install the distillation flask (125 mL or 200 mL) in just a few seconds in the correct position with one hand.

The multi-plug's integrated memory space has up to 20 temperature sensor calibration points, automatically applied when the multi-plug is mounted. There's no need for recalibration when exchanging multi-plugs.

A SMART USER INTERFACE WITH CONDITION MONITORING
Diana 700's smart condition monitoring automates the measurement setup. It comes with two modes for different user levels. The "Guided Mode" for beginners takes you step-by-step through the start-up, and the "Advanced Mode" for experienced users let's you jump right into distillation.

Diana 300's basic condition monitoring system includes the most safety-relevant components and a modern user interface.

DESIGNED WITH SAFETY IN MIND
Diana comes with a fire sensor and an internal fire extinguisher, initiated automatically or with a button.

We built the Diana 700 automatic heater shield to surround the flask, reducing your risk of contact with hot components. It monitors all conditions required for distillation setup, including correct flask choice, finished condenser cleaning, and/or correct flask support board selection. When distillation starts, the heater shield and heater move up automatically. With its status light, the progress of the distillation process is always clear.

Although Diana 300's heater shield is manually operated, the flask temperature is displayed on the dashboard, so you know when it's safe to touch the flask after distillation.

CIS SCANNER FOR HIGHLY ACCURATE VOLUME READING
Diana leverages the high accuracy of contact image sensor technology (CIS) for precise determinations of sample volume (resolution is 0.01 mL).

Tight jacketing of the cylinder ensures the chamber has excellent sample and cylinder temperature stability. A unique receiving chamber prevents condensation due to high humidity and reduces evaporation losses of volatile organic compounds (VOCs). Diana 700 also measures initial volume before the test starts and corrects it to 100 % volume.

PELTIER TECHNOLOGY FOR EFFICIENT TEMPERING
The Diana 700 distillation analyzer uses highly efficient Peltier technology to quickly switch between different distillation groups and attain required temperatures in under five minutes. The distillation process is fully automated and real-time optimized: no sample-specific heat parameter configuration. After distillation, the heater descends automatically, and the flask is quickly cooled to a safe handling temperature.

Diana 300 offers multiple preconfigured test methods for sample-specific heating parameters. The "Optimize and Restart" function enables adjustment of test methods in case of a non-compliant heating rate.

HASSLE-FREE CONNECTIVITY, SECURE DATA STORAGE
Diana 700 offers connectivity, storage, and data management on a single platform, across numerous data interfaces: network file-share via Wi-Fi, LAN, LIMS, and AP Connect, our lab execution software software that puts all your data in one place. After distillation, the Diana series displays concise test reports with key measurement results. No need to worry about storage, since one instrument can store up to 4,000 measurements, transferrable with user-defined output reports.

Diana 300 stores up to 200 measurements, savable on a USB stick, and it can be connected to an external printer.

Diana 700

HIGH THROUGHPUT, ZERO HUMAN ERROR

For customers with a high sample throughput requiring the highest productivity, especially with changing sample types, the distillation analyzer Diana 700 offers the perfect solution. It comes with a fully monitored test setup for fuels or solvents, leaving zero room for human error. The customizable software and connectivity features allow seamless integration into your workflow and make your laboratory an efficient working place for atmospheric distillation.

- ✓ Condition monitoring system for the entire test setup leaves zero room for human error
- ✓ Convenient multi-plug for one hand operation stores calibration data on it for easy and reliable exchange of multi-plugs
- ✓ Automated heater control ensures that no initial heater parameter input is required prior to distillation
- ✓ Automatic heater lift and heater shield enable fast cooling of flask after distillation and ensure that the flask can only be taken out at reasonable temperatures
- ✓ Up to 4,000 measuring results, 200+ user test methods, customizable dashboards, and data export with AP Connect, Wi-Fi/LAN, LIMS, USB, and printer allows full flexibility and data integrity
- ✓ Scanning of initial volume and residue reduces the risk of wrong distillation results

AUTOMOTIVE SPARK IGNITION FUEL

JET FUEL

DIESEL FUEL

VOLATILE ORGANIC LIQUIDS

BIODIESEL BLENDS

AROMATIC HYDROCARBONS

Diana 300

AN OUTSTANDING PRICE-PERFORMANCE RATIO

For customers who have to measure similar fuel types frequently and who consider the instrument purchase price to be the key factor, Diana 300 – with its outstanding price-performance ratio – is the best choice. Diana 300 is an automatic distillation analyzer that's fully compliant with ASTM D86, and it provides an essential comfort and productivity feature set and the expected Anton Paar service quality.

- ✓ Safety-relevant condition monitoring system ensures full safety during distillation
- ✓ Economic sensor plug allows calibration on instrument
- ✓ Assisted heater control that comes with preset initial heater parameters for most common test procedures
- ✓ Manual heater lift and heater shield for convenient and safe operation
- ✓ Up to 200 measuring results, 15 test methods, preset dashboards, and data export with USB and printer allows convenient data handling

AUTOMOTIVE SPARK IGNITION FUEL

BIODIESEL BLENDS

DIESEL FUEL

JET FUEL

Let the Software
Guide You

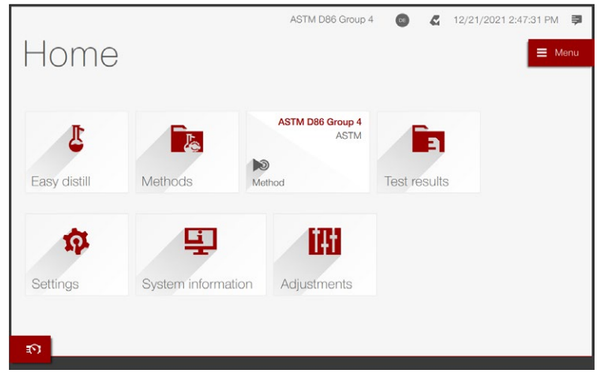
CUSTOMIZABLE AND INTUITIVE USER INTERFACE
Using the intuitive software feels like using a smartphone. Customize your home screen to give you fast access to your favorite menu items. Create multiple individual measurement display layouts according to your needs. Add, change, and delete data fields based on the data you want to see at a glance and arrange their size with just a few clicks – so you can concentrate on the essentials.

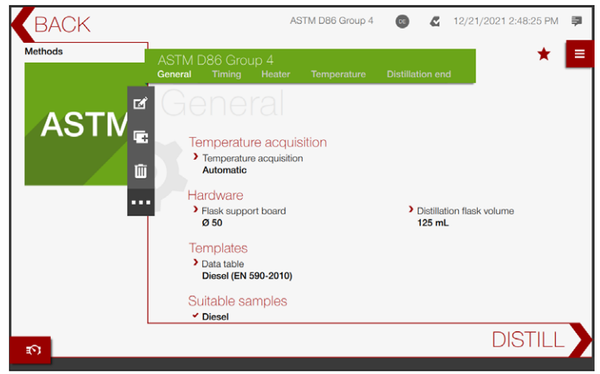
SMART HEATER REGULATION
The smart automatic heater regulation of Diana 700 ensures the standard-compliant setting of the initial and final heating parameters. It guarantees a perfect distillation rate, even for complicated fuel blends such as ethanol in gasoline (up to 85 %). Rely on Diana 700. Your measurements will fulfill all requirements according to the given standard on the first try.

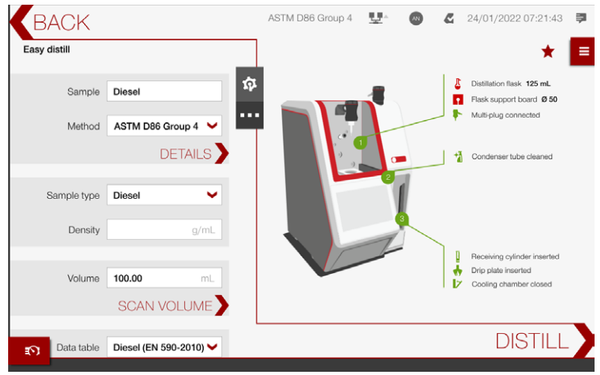
↑
AP CONNECT LABORATORY SOFTWARE
Go paperless, eliminate transcription errors, and fully centralize your lab data, with storage of tens of thousands of measurements in a single digital space. With the AP Connect lab execution software, Diana 700's measurement data is available at a snap and is accessible from any network computer using your local network infrastructure. Streamline your data flow to free up time for your analysis.

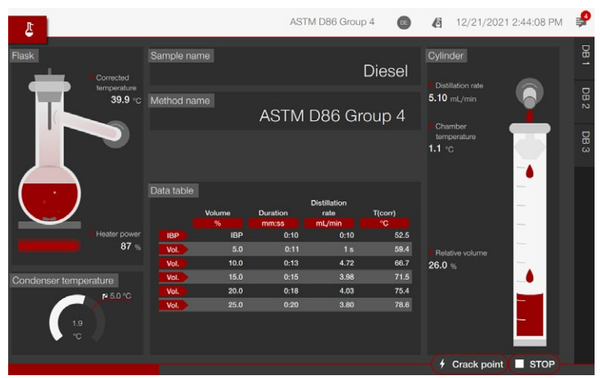
FIND OUT MORE ABOUT
AP CONNECT

www.anton-paar.com/apc









	Diana 700	**Diana** 300
Standard methods	ASTM D86 (Group 0, 1, 2, 3, 4), ASTM D850, ASTM D1078, EN ISO 3405 (Group 0, 1, 2, 3, 4), IP 123, IP 195, JIS K 2254, GOST 2177, ASTM D524, ASTM D4530	ASTM D86 (Group 0, 1, 2, 3, 4), EN ISO 3405 (Group 0, 1, 2, 3, 4), IP 123, JIS K 2254, GOST 2177
OPERATION		
User interface	10" TFT color touchscreen, solvent-proof	
Heating system	- Low mass/low voltage heating system with automatic positioning of heater and safety shield - Automatic initial heater settings and heater regulation - Cooling fan to quickly reach safe handling temperature after test	- Low mass/low voltage heating system with manual positioning of heater and safety shield - Preprogrammed initial heater settings in test methods
Condenser system	Liquid-free cooling with Peltier technology Temperature range: 0 °C to 80 °C, resolution: 0.1 °C	
Receiving chamber	Liquid-free cooling with Peltier technology Temperature range: 0 °C to 80 °C, resolution: 0.1 °C Corrosion-proof Automated reduced VOC emission	
Vapor temperature	Pt100, class A (metal or glass) - Temperature range: 0 °C to 450 °C, resolution: 0.1 °C - Integrated calibration memory with 20 calibration points and automatic read-out (ID detection) - Automatic correction by barometric pressure	Pt100, class A (glass) - Temperature range: 0 °C to 450 °C, resolution: 0.1 °C - Automatic correction by barometric pressure
Sample volume	Optical static detection system with contact image sensor (CIS) technology - Sample volume scan before test start to measure initial volume (converted to 100 %, if necessary) - Residue scan in receiving chamber with automatic calculation of loss - Volume range: 0 mL to 103.5 mL, resolution: 0.01 mL - Accuracy: ±0.1 mL	- Volume range: 0 mL to 100 mL, resolution: 0.01 mL - Accuracy: ±0.1 mL
Ambient pressure	Built-in pressure sensor, range: 30 kPa to 110 kPa, resolution: 0.1 kPa	
Ambient humidity	Built-in humidity sensor, range: 0 % to 95 % (relative humidity)	
Ambient temperature	Built-in temperature sensor, temperature range: -20 °C to +80 °C, resolution: 0.1 °C	
Status light	Yes	No
Test results	>4,000	200
User test methods	>200	15
SAFETY		
Fire extinguisher	Built-in fire extinguisher with IR sensor for fire detection, connection of 4 bar to 6 bar CO_2 or N_2	
Condition monitoring system	Detection of flask size, flask support board, vapor temperature sensor, heater shield, heater lift, condenser cleaning, receiving chamber door, receiving cylinder, drip plate, detection if fire extinguishing gas is connected	Detection of vapor temperature sensor, receiving chamber door, receiving cylinder, drip plate

	Diana 700	**Diana** 300
OPERATING REQUIREMENTS		
Temperature	+10 °C to +35 °C	
Relative humidity	10 % to 80 % relative humidity at 35 °C	
Voltage	100 V to 240 V, 50/60 Hz	
Total power	900 W	
Altitude	0 m to 5000 m	
DIMENSIONS AND WEIGHT		
Dimensions	Approx. 406 mm × 525 mm × 645 mm (W × D × H)	
Weight	Approx. 40 kg	
FURTHER FEATURES		
Connectivity	1 × Ethernet, 4 × USB, Bluetooth, Wi-Fi, AP Connect, LIMS	2 × USB
Automatic calculations	Cetane index, driveability index	-
Accessories	Dry point sensor, 200 mL flask, bar code reader, printer, receipt printer, keyboard, various certified reference materials (CRM)	Bar code reader, printer, receipt printer, keyboard, various certified reference materials (CRM)

Anton Paar
Certified Service

“We're confident in the high quality of our instruments. That's why we provide **a full warranty for three years**.”

All new instruments* include repair for three years.
You avoid unforeseen costs and can always rely on your instrument.
Alongside the warranty, we offer a wide range of additional services and maintenance options.

*Due to the technology they use, some instruments require maintenance according to a maintenance schedule. Complying with the maintenance schedule is a prerequisite for the three-year warranty.

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