



# Atmospheric Distillation of Petroleum Products ASTM D86, D850, D1078, ISO 3405, IP 123 **VD10 – Automated Video Distillation**

## Methods:

ASTM D86, D850, D1078  
ISO 3405, ISO 918  
IP 123, IP 195  
DIN 51751  
JIS K2254  
GOST 2177



- ▶ Fully compliant with standard test methods
- ▶ Highest level of accuracy
- ▶ Highest level of automation
- ▶ No programming
- ▶ Intelligent automatic heater regulation assures:
  - ▶ Optimal initial heating to reach IBP
  - ▶ Perfect distillation rate
  - ▶ Appropriate final heating to FBP
- ▶ PT100 with embedded calibration data
- ▶ User friendly touch screen interface
- ▶ Highest safety level

The Video Distillation VD10 revolutionizes distillation testing by bringing **unmatched automation and precision** to the analysis of atmospheric distillation of petroleum products.

**Video camera assisted algorithm** (patent pending) applies optimum flask heating based on real time analysis of the sample behavior in the flask. Like an experienced operator of a manual distillation the VD10 **monitors visually all phases of sample boiling**. A powerful real-time image analysis **anticipates and predicts the optimal heater settings** to respect standard method conditions for IBP, 5% timings and distillation rate control.

**No need for any programming or optimization**, perfect distillation run from a first shot even for unknown or difficult samples like biofuels.



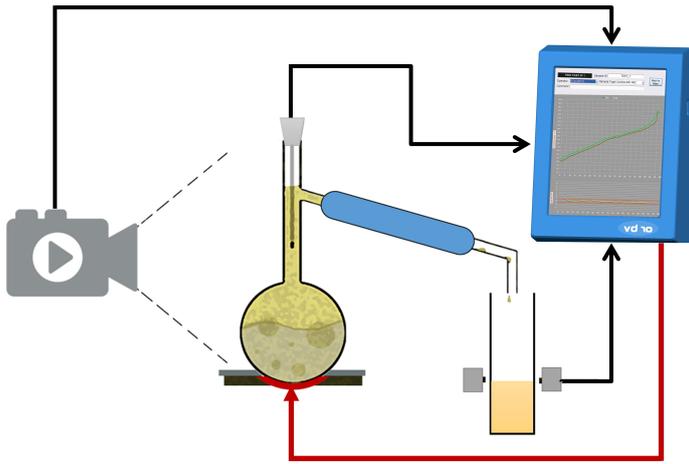
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## Applications

Based on its advanced technology and reliability, the VD10 is perfectly suited for finished products (Gasoline, Kerosene, Aviation Turbine Fuels, Diesel Fuels, Solvents, ...), as well as for process streams, blending components, difficult samples, like biofuels containing ethanol, and research work.

## Operation

Intelligent video system assists operator by checking proper installation of flask, probe and heater plate. The VD10 advanced control algorithm uses image analysis to perfectly control the distillation run.



**The entire procedure is fully automated:** heating the flask, regulating the condenser and receiver temperatures, measuring vapor temperatures and volume, detecting IBP, FBP and recording all data. At the end of the test, the heater is automatically lowered and cooled down quickly. Results are displayed, saved, printed, sent to LIMS.

## Benefits

The VD10 is **the most advanced distillation instrument** available today. Developed by AD Systems, original imaging system makes the VD10 **truly automatic** distillation apparatus **not requiring any programming, drastically reducing operator time.**

High quality components, precise sensors and robust construction assure **high reliability**, heavy-duty use with **minimum maintenance.**

User friendly interface contains all necessary features for test traceability, quality assurance, diagnostics, communication and safety.

## Safety

Without compromise, the VD10 is equipped with necessary safety features including built-in fire extinguishing system with automatic fire detection and external alarm connection. A safety watchdog permanently monitors for abnormal situations, preventing the operator or acting immediately if there is a risk for the operator or the equipment.

## Ordering information

AA320-001	VD10 - Automated Video Distillation Delivered ready for operation
Technical specifications	Description
Methods	ASTM D86, D1078, D850, IP123, IP195, DIN51751, ISO 3405, GOST 2177, JIS K2254.
Vapor temperature	Pt100 class A with embedded calibration data and automatic probe ID detection. Range: 0 – 450°C , accuracy 0.1°C.
Heater	Low mass/low voltage heater. Video camera assisted algorithm calculates optimum heating in real-time. Distillation rate range: 2-10 ml/min Automatic heater lift . Specially designed fan for fast cooling.
Condenser	Hybrid : Solid state/liquid cooled condenser. Sealed system for long life operation. Very fast temperature stabilization at setpoint in the range of 0 – 65°C.
Receiver	Homogeneous tempering of receiver chamber in the range 10 to 45°C. Accurate optical volume measurement not affected by “smoky” product, accuracy 0.1 ml Normalized to 100% charge volume.
Ambient sensors	Built-in barometric pressure sensor 50 to 110 kPa, accuracy 0.1 kPa Ambient temperature and humidity sensors supplied in standard
User interface	Full-color touch screen; Multi-language; Smart operator assistance features
Communication	USB, RS232; Ethernet
Fire safety	UV sensor for fire detection. Built-in fire extinguisher manifold. External alarm connection.
Emission reduction	VOC extraction included in standard
Electrical	100-240 VAC 50/60 Hz
Physical	(WxDxH) 42cm x 48cm x 63cm; weight: 50 kg
Accessories	Dry point kits; printer; bar code reader
Operation conditions	Temperature 10°C – 35°C; Humidity up to 90 %, non-condensing

We reserve the right to alter specifications without notification

Your local distributor:

For additional information:

### AD Systems

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