PAC | solid partners proven solutions



OptiPMD

Next-Generation Lab Micro Distillation Analyzer

- Analysis of gasoline (including up to 20% ethanol), jet fuel, diesel, Kerosene and biodisesel (FAME)
- Compliant with: ASTM D7345, EN 17306 and IP 596
- In perfect correlation to: ASTM D86, D1160 (biodiesel B100), ISO 3405 & IP123
- Included in at least ten ASTM fuel specifications as an alternative to D86
- Compliant with fuel specs in Canada, Mexico, Chile, EU, UK and India

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OptiPMD

FAST & RELIABLE MICRO-DISTILLATION ANALYSIS

10 mL

10+ specs

10 mins

OptiPMD is the second generation of a state-of-the-art solution for fast and reliable distillation analysis. It is in accordance to ASTM D7345, EN 17306 and IP 596; and in perfect correlation with ASTM D86, D1160 (B100), ISO 3405 and IP 123. OptiPMD determines the boiling range characteristics of petroleum products in less than 10 minutes, using only 10 ml of sample and it's included in at least 10 fuel specifications.

KEY ADVANTAGES

LOWER COST OF OWNERSHIP

- Minimal use of consumables and longer lasting flask
- Savings in disposal costs thanks to low hazardous waste
- Ease of use significantly reduces the need for training

SAFETY AND QUALITY CONTROL

- Ultra-fast optical flame detector can alert of a fire in the improbable event of a broken flask
- Fires can be rapidly extinguished by a built-in suppression system
- Quality control functions allow specification limits by product

QUICK DISTILLATION, HIGH THROUGHPUT

- Start testing without concern over flask and measurement device adjustments or heater power settings
- Perform five to six tests per hour
- No conditioning or cleaning is necessary between tests
- Results can be stored, printed via ethernet, or shared via LIMS or USB drive

EASE OF USE

Get accurate results in less than 10 minutes with only 10 mL of sample



Load sample > Start test > Run distillation > Get results

ASTM D7345 VS. D86

ASTM D7345 delivers significantly faster results compared to the conventional ASTM D86 method, saving you 25 to 35 minutes per distillation. The method measures vapor and liquid temperature variations, along with the pressure inside the micro-distillation flask under atmospheric pressure.

This test method is reliable and applicable to any petroleum product, without needing prior knowledge of its properties. No heating power programming or group selection is necessary, nor the need to correlate specific volume readings with temperature points throughout the distillation, since the collected volume is not measured. Results are calculated in seconds and presented in a D86-compliant report.



OptiPMD saves you 25 to 35 minutes per distillation, compared to D86 analyzers

MULTIPLE APPLICATIONS

ASTM SPECIFICATIONS

SPEC	APPLICATION
D396	Fuel Oils
D975	Diesel Fuel Oils
D1655	Aviation Turbine Fuels
D2880	Gas Turbine Fuel Oils
D3699	Kerosene
D4814	Automotive Spark-Ignition Engine Fuel
D6751	Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels
D7467	Diesel Fuel Oil, Biodiesel Blend (B6 to B20)
D7566	Aviation Turbine Fuel Containing Synthesized Hydrocarbons
D8147	Special-Purpose Test Fuels for Aviation Compression-Ignition Engines



The compact and robust design makes OptiPMD ideal for mobile applications, and refining process controls

INTERNATIONAL SPECIFICATIONS

SPEC	APPLICATION
CANADA	
CGSB-3.5-2016	Automotive Gasoline
CGSB-3.511-2016	Oxygenated automotive gasoline containing ethanol (E1–E10)
CGSB-3.517-2017	Diesel Fuel
CGSB-3.520-2017	Diesel fuel containing low levels of biodiesel (B1-B5)
CGSB-3.522-2017	Diesel fuel containing biodiesel (B6-B20)
CGSB-3.2-2017	Heating fuel oil
CHILE	
Dto-60-2012	Especificaciones de calidad de combustibles
EU & UK	
Def Stan 91-091	Turbine Fuel, Kerosene Type, Jet A-1
INDIA	
IS 1460:2017	Automotive Diesel Fuel
IS 1571:2018	Aviation Turbine Fuels, Kerosene Type, Jet A1
MEXICO	
NOM-016-CRE-2016	Especificaciones de calidad de los petrolíferos

SPECIFICATIONS

OPERATION	
Standard Test Methods	ASTM D7345, EN 17306, IP 596. Correlation to ASTM D86, ASTM D1160 (biodiesel B100), ISO 3405, IP 123 and analogs
Fuel Specifications	ASTM: D396, D975, D1655, D2880, D3699, D4814, D6751, D7467, D7566, D8147 Canada: CGSB-3.5-2016, -3.511-2016, -3.517-2017, 3.520-2017, -3.522 and 3.2-2017 Europe: DefStan 91-091. Mexico: NOM-016-CRE-2016. Chile: 60-2012. India: IS-1460, IS-1571
Operation Principle	Physical distillation under atmospheric pressure
Sample Volume	10ml, 5ml for B100
Test Cycle Time	<10 minutes for complete run
Heating system	Low mass, self-positioning low voltage heating element (125W), fast air cooling at test completion
APPLICATION RANGE	
Temperature Range	0° to 400°C (32° to 752°F) Sensitivity: ±0.1°C (±0.1°F)
MEASUREMENTS	
Temperature	Non-inertial, low mass thermocouples protected by rigid metal thermowell for reliable operation
Volume	Evaporated volume percent vs. temperature. Calculated by analyzer software
DATA MANAGEMENT	
Documentation	Complete method-compliant report, or custom selected distillation points Distillation results instant report in °C or °F
Internal Memory	Up to 40 test products, 80 test methods with specifications (i.e. typical temperature vs. volume or volume vs. temperature) and 200 complete distillation test results
QC-Functions	Automatic QC-sample handling and QC-Chart
POWER REQUIREMENTS	
Voltage	90 to 240 VAC (auto switching) (+/- 5%)
Frequency	50/60Hz
Power	300W
INTERFACE SPECIFICATIONS	
Data input/output	• 2 USB ports for data export, barcode reader, keyboard, external memory, PCL 5 compatible printers • Ethernet 10Mbit/sec, 100Mbit/sec • RS232C serial link for direct connection to LIMS or external PC
User Interface	• 7” color touch screen, alpha numeric data input • Barcode reader • User selectable languages: English, French
ENVIRONMENTAL CONDITIONS	
Operating temperature	10 to 35°C (50 to 95°F)
Humidity	Relative humidity: up to 85% at 35°C (not condensing)
Storage temperature	-20 to 40°C (-4 to 104°F)
PHYSICAL CARACTERISTICS	
Size (W x D x H)	331 x 435 x 397 mm (13 x 17.1 x 15.6 in)
Weight	15.5 kg (34.2 lbs)

Continuing research and development may result in specifications or appearance changes at any time

ABOUT PAC

PAC develops advanced instrumentation for lab and process applications based on strong **Analytical Expertise** that ensures **Optimal Performance** for our clients. Our analyzers help our clients meet complex industry challenges by providing a low cost of ownership, safe operation, high performance with fast, accurate, and actionable results, high uptime through reliable instrumentation, and compliance with standard methods.

Our solutions are from industry-leading brands: AC Analytical Controls, Advanced Sensors, Alcor, Antek, Herzog, ISL, Cambridge Viscosity, PetroSpec and Phase Technology. We are committed to delivering superior and local customer service worldwide with 16 office locations and a network of over 50 distributors. PAC operates as a unit of Roper Technologies, Inc., a diversified technology company and a constituent of S&P 500, Fortune 1000, and Russell 1000 indices.

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