



EIE

EIE-SIMDIS Simulation Distillation Range
EIE-SDR-01

EIE-SIMDIS Simulation Distillation Range



- The SIMDIS software features a user-friendly interface with simple operation
- Solution applicable to all sample types
- Including calibration samples, system performance test samples, and all calculation results
- Complies with global standard testing methods



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Introduction

Boiling point data are a critical parameter for characterizing petroleum fractions. The company provides comprehensive turnkey gas chromatography analysis solutions capable of accurately determining true boiling point values for samples ranging from naphtha to crude oil. By automating every step of the analytical process, the SIMDIS application system delivers rapid and precise boiling point results.

By offering a solution with 100% assurance, it delivers unique value to the industry: the solution is fully factory-calibrated, tested using certified reference materials, and precisely calibrated according to user-specific methods.

Technical Features

- Programmed temperature injection port. Widely recognized as the "market-leading" injection port for simulated distillation experiments, featuring easy maintenance.
- Equipped with a diaphragm purge function, it enables clean and repeatable baseline measurements.
- Light solvent-optimized automated liquid sampler (ALS): Enhanced injection accuracy is achieved through an optimized cooling system.
- Adjust the airflow distribution around the sample chamber in ALS to reduce temperature.
- The SIMDIS analyzer can detect: gasoline, jet fuel, diesel, light lubricating oil, crude oil, and residual oil.
- The software is compatible with mainstream chromatography data systems (tested on OpenLab, EZChrom, ChemStation ChromPerfect, Chromeleon, Galaxie, Compass CDS, and others).
- Fast, workflow-oriented, intuitive interface.
- configurable functions for result import, processing, report generation, and LIMS transmission.
- Automated blank subtraction, calibration, and system validation
- Define different testing methods and product specifications

Specialized Correlation Analysis and Computing

- Correlation of ASTM D86 (physical distillation method) determination values for gasoline, jet fuel, and diesel
- Relevance to ASTM D1160

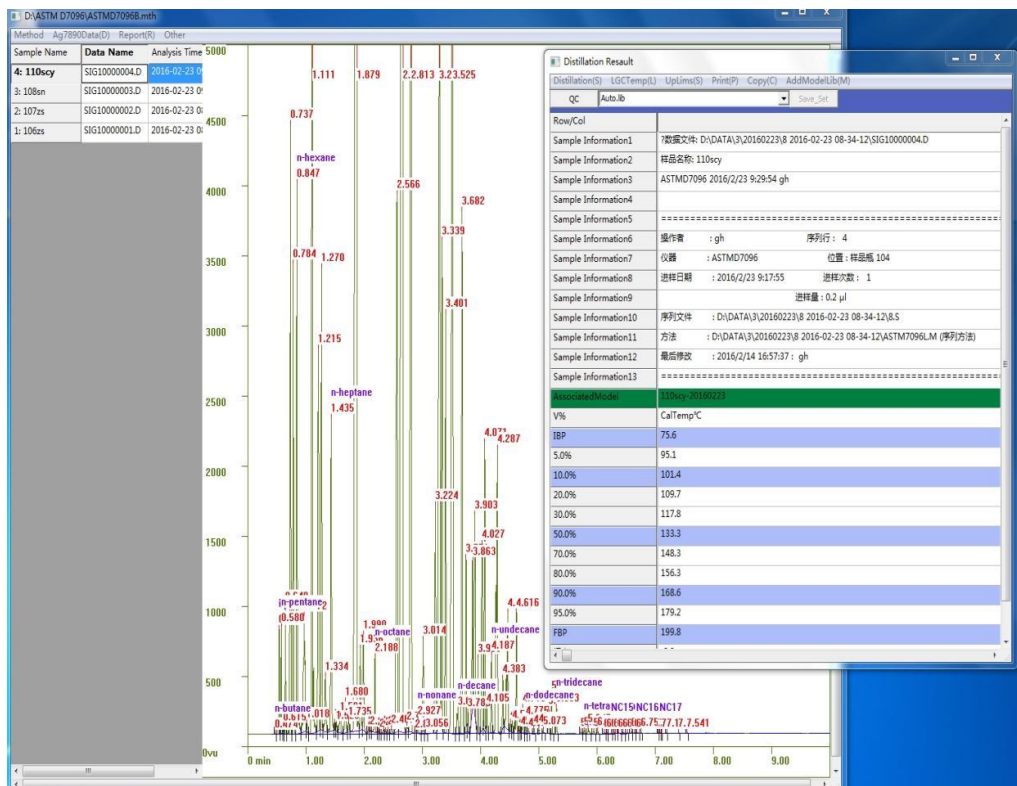


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- According to the NOACK standard specified in DIN 51581-2
- Volatile content of engine oil (MOV) determined according to ASTM D6417 standard
- Red vapor pressure (RVP) determined according to ASTM D323 standard
- Volume conversion of light crude oil
- Customizable cut points (temperature and closure percentage)
- Calibrated sample chromatogram, blank chromatogram, calibration chromatogram, and superimposed display of carbon atom counts
- All relevant correlation analyses and specific calculations
- QC Reference Report
- Peak skewness and column resolution parameters
- The report can be exported in various formats, such as CSV/Excel, PDF files, or copied to the clipboard for viewing results outside of SIMDIS software.

ASTM D7096 Analysis Report





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METHOD OVERVIEW (ASTM)

ASTM	D3710	D7096	D2887	D5307	D5442	D7213	D7398	D6352	D7169	D7500
Max. Carbon number	C ₁₅	C ₁₆	C ₄₄	C ₄₄	C ₄₄	C ₆₀	C ₆₀	C ₉₀	C ₁₀₀	C ₁₁₀
Sample Range	Gasoline Naphtha	Gasoline Naphtha	Jet Fuel Diesel	Crude Oil	Petroleum-derived waxes	Lube oil base stocks	FAMES Biodiesel blends	Lube oil base stocks	Residue Crude oil	Distillates, Base Oils, Lubricating Base Stocks
Boiling range sample	FBP <260oC (500F)	FBP <280oC (536F)	FBP <538oC (1000F)	n.a	FBP <538°C (1000°F)	IBP >100oC (212F) FBP >615oC (1138F)	IBP >538oC (1000F) FBP >700oC (1292F)	IBP >174oC (345F) FBP >700oC (1292F)	FBP <720oC (1328F)	IBP >100oC (212F) FBP >735oC (1355F)

OTHER METHODS

Standard	ISO 3924 / IP 406	IP 480 / EN 15199-1 / DIN 51.435	IP 507 / EN 15199-2	IP 545 / EN 15199-3
Max. Carbon number	C ₄₄	C ₁₂₀	C ₁₂₀	C ₁₂₀
Sample Range	Jet Fuel, Diesel	Lube oil base stocks (totally eluting)	Residue	Crude oil
Boiling range sample	FBP <538°C (1000°F)	IBP >100°C (212°F) FBP >750°C (1382°F)	IBP >100°C (212°F) FBP >750°C (1382°F)	IBP >174°C (345°F) FBP >750°C (1382°F)

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Analysis Performance

Accuracy Rate	Compliant with specified methods or adopt superior schemes
Sensitivity	Compliant with specified methods or adopt superior schemes
Accessories Included	Operation manual; calibration samples; reference samples; startup kit; carrier-gas filter; oven exhaust guide assembly; chromatographic column

Utilities and Requirements

Carrier Gas	Helium or Nitrogen
FID	Hydrogen (99.999%) Nitrogen (99.999%) Compressed Air (99.999%)
Cooling	Liquid- nitrogen, or CO ₂ for rapid cooling, subject to different analytical methods
System Power Supply	110-230V