

GC FOR DETAILED ANALYSIS OF PETROLEUM NAPHTHAS



GC for Detailed Analysis of Petroleum Naphthas TT-5134

GC for Detailed Analysis of Petroleum Naphthas TT-5134 conforms to ASTM D5134 Standard Test Method for Detailed Analysis of Petroleum Naphthas through n-Nonane by Capillary Gas Chromatography and ASTM D6733 Standard Test Method for Determination of Individual Components in Spark Ignition Engine Fuels by 50-Meter Capillary High-Resolution Gas Chromatography.

A representative sample of the naphtha is introduced into a gas chromatograph equipped with a methyl silicone bonded phase fused silica capillary column. Helium carrier gas transports the vaporized sample through the column, where the components are separated. Components are detected by a flame ionization detector as they elute from the column. The detector signal is processed by electronic data acquisition.

APPLICATIONS

The primary application of the GC for Detailed Analysis of Petroleum Naphthas TT-5134 is the **detailed compositional analysis of petroleum naphthas and spark-ignition engine fuels (gasoline)**. In compliance with standards like **ASTM D5134** and **ASTM D6733**, this Gas Chromatograph (GC) separates and quantifies individual hydrocarbon compounds. This allows for a comprehensive PONA analysis (Paraffins, Olefins, Naphthenes, and Aromatics), which is essential for predicting the performance, quality, and environmental impact of the fuel or feedstock.

Key Industries

- **Petroleum Refining:** This is a cornerstone instrument for refineries. The detailed compositional data is critical for controlling and optimizing key refining units like reformers and isomerization units, and for blending gasoline to meet octane, volatility, and regulatory specifications.
- **Petrochemicals:** Naphtha is a primary feedstock for the production of plastics and other chemicals (e.g., ethylene, propylene). The petrochemical industry relies on this detailed analysis to determine the suitability of a naphtha stream

for its chemical processes and to predict the yield of desired products.

- **Third-Party Testing Laboratories:** These independent labs use this advanced GC analysis to provide detailed compositional data to refineries, chemical plants, and regulatory agencies. This data is often used to certify product quality, troubleshoot production issues, or verify compliance with environmental regulations.

FEATURES

- 7-inch color touch screen, with the option for resistive touch, featuring an all-English interface.
- Utilizes an advanced 10/100M adaptive Ethernet communication interface and built-in IP protocol stack, facilitating easy formation of a local area network for long-distance data transmission.
- Equipped with IBrainChrom workstation, supporting simultaneous operation of multiple chromatographs (up to 253) for data processing and counter-control. The built-in ModbusRTU server in the IBrainChrom workstation enables seamless connection of analysis results to DCS (distributed control system).
- Features a modular design for easy upgrades. Offers optional high-performance detectors including FID, TCD, ECD, FPD, and NPD detectors to meet the demands of complex sample analysis. Traditional pointer pressure gauges are completely replaced with EPC technology for air circuit control, ensuring self-protection against gas circuit failure, automatic ignition, focus on flameout, and automatic opening of the gas circuit, enabling one-key start.
- The timing startup program enables easy online analysis of gas and liquid samples when equipped with sampling components.

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Software features:

- The gasoline PONA analysis method is used to analyze the composition of gasoline components, where P represents paraffins, O represents olefins, N represents naphthenic hydrocarbons, and A represents aromatics, as well as individual hydrocarbon compounds.
- The relative retention index method is commonly utilized for the qualitative determination of each component of gasoline.
- Each instrument independently calculates and retains the standard library index.
- The PONA3000 gasoline analysis software presents the standard graph and the sample graph on the same coordinate system. The upper and lower chromatographic peaks correspond to each other, providing clear qualitative analysis at a glance. It is simple and easy to learn.

TECHNICAL SPECIFICATIONS

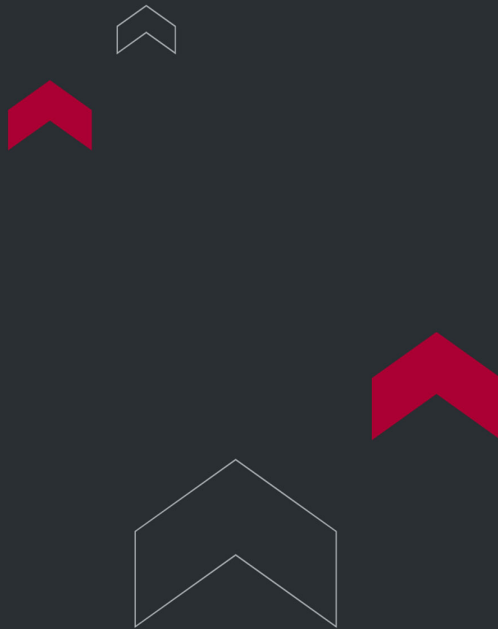
1. Measuring range: 70–370°C
2. Applicable standard: ASTM D92
3. Temperature detection: Pt100
4. Flash point detection: Ionization ring detection
5. Heating rate: As per ASTM D92 requirements
6. Igniter: 220V, 1.0 kW
7. Ignition mode: Automatic electronic ignition

8. Rated voltage: AC 220V ± 10%, 50 Hz (110V also available)

9. Dimensions: 350 x 400 x 350 mm (L x W x H)

Configuration:

Item	Unit	Qty.
Main Unit	set	1
Fuse Φ5×20 10A	piece	1
Micro printer	set	1
Test cup	piece	1
igniter	piece	1



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