

Gas Chromatography Analyzers for the Hydrocarbon Processing Industry



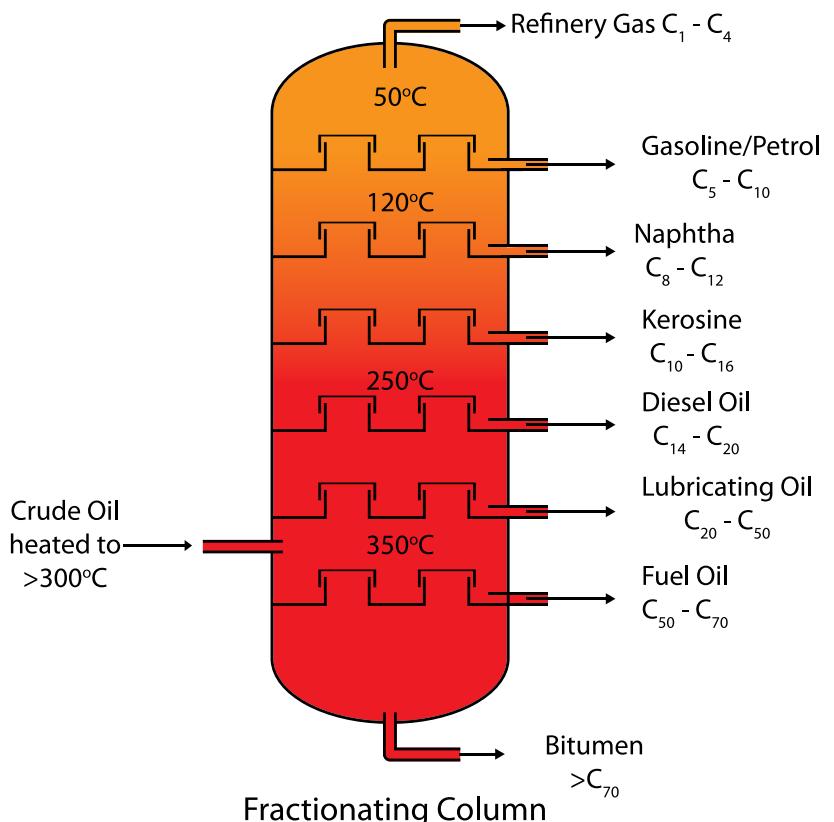
Superior ROI: fast start-up, more
uptime, and lower cost of ownership

Thermo Fisher
SCIENTIFIC

Hydrocarbon Processing Analysis

Our GC analyzers were engineered to meet the demanding requirements of a 24/7/365 operation – configured, tested and ready for start up. Configurations cover crude oil characterization, process analysis, and final product QA/QC.

Crude Oil Fractional Distillation



Crude Oil	Refinery Gas	Fuels & Distillates
SIMDIS	✓ ASTM D1945	SIMDIS
✓ ASTM D5307	✓ ASTM D1946	✓ ASTM D2887
✓ ASTM D7169	✓ ASTM D2163	✓ ASTM D3710
DHA	✓ UOP 539	✓ ASTM D7096
✓ ASTM D7900	✓ Fast RGA	DHA
	✓ Acid gas systems	✓ ASTM D5134
		✓ ASTM D6729
		✓ ASTM D6730
		Oxygenates
		✓ ASTM D4815
		✓ ASTM D7423
		✓ ASTM D7754
		Aromatics
		✓ ASTM D3606
		✓ ASTM D5580

Hydrocarbon Processing Analysis

Innovations that Maximize ROI

The Hydrocarbon Processing Industry (HPI) requires more types of gas chromatography analyzers than any other single industry. From the initial analysis of incoming crude oil to final product analysis to meet customer specification or EPA regulations, gas chromatography plays a vital role in refinery operations, quality control, and safety. A gas chromatography platform that is flexible, rugged, reliable and easy to maintain is paramount to keeping up with the challenging samples, throughput and demands of a 24/7/365 operating environment.

Our team of experts have over 35 years experience in designing, building and operating gas chromatographs for the HPI requirements. Each GC analyzer comes fully assembled, tested and ready to connect to your gases, network, and workflow. Fast startup, rugged operations and the most uptime are benefits of the innovative modular Thermo Scientific™ TRACE™ 1300 Series Gas Chromatograph.

Each analyzer is delivered with a complete documentation package that includes detailed methods, complete plumbing schematics, a troubleshooting guide and consumables.

The powerful Thermo Scientific™ Chromeleon™ Chromatography Data System (CDS) is included for a complete turnkey solution, with custom reporting packages and LIMS interfaces. Additional drivers are available to connect the analyzer to other CDS platforms, like EZChrom, OpenLAB, and Empower. Contact your local sales representative for a complete listing.





It Starts with the Gas Chromatograph

The innovation in the TRACE™ 1300 Series GC Gas Chromatograph will change the way you manage your GC systems - forever *and for the better*.

"Instant Connect" modularity, a patented Thermo Fisher Scientific technology, has completely revolutionized GC design. These modules incorporate all relevant pneumatic hardware and electronic parts necessary for making the injector or the detector a fully self-sufficient sub-unit of the instrument. The modules are plugged in to the top part of the GC, automatically configured into the system, and connected to the gas supply lines. Installing a module takes only two minutes.

- No special training required - reduce training costs
- No need for a service call - reduce cost of ownership
- No extended downtime - higher uptime and more samples per month

Gas Chromatograph, Valves, Plumbing and Valve Ovens

Each HPI GC analyzer is delivered ready to run your samples. Our solutions maximize performance and minimize footprint.

Compact Valve Oven - simplified configurations

- Valves: Two heated or unheated
- Maximum temperature: 180 °C
- Easy access bulkhead In/Out fittings

Auxiliary Oven - increased capacity, flexibility and capability

- Valves: Up to six heated and two unheated rotary valves
- Maximum temperature: 350 °C
- Room for multiple columns
- Optional separate column oven module for additional isothermal zone
- Optional two detector modules on top - simultaneous and independent 4-channel capability

We deliver more to meet your demands

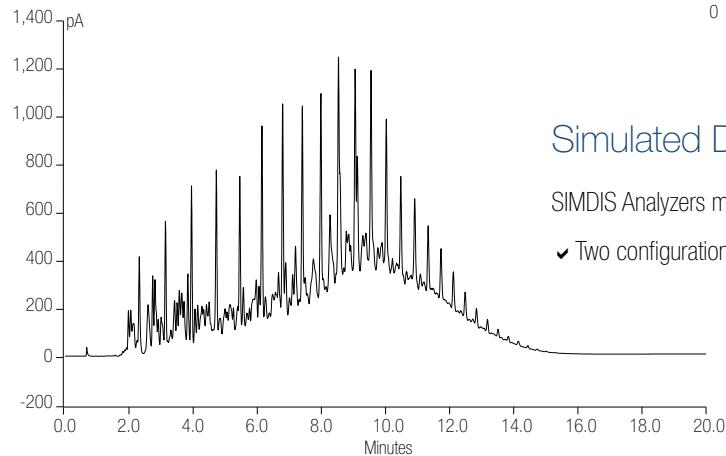
Thermo Fisher Scientific HPI GC analyzers are designed, built and tested to meet method requirements, withstand the rigors of high throughput production labs, and increase analytical performance.

- Accurate and Reproducible - Confidence in results every time
- Robust - Built to optimize high sample loads
- Reliable - Maximized throughput and minimized downtime

Detailed Hydrocarbon Analysis

High resolution gas chromatography solutions for the detailed analysis of hydrocarbons in petroleum streams.

- ✓ Select from two base configurations
- ✓ Four mode kits for fast startup
- ✓ Integrated backflush for ASTM D7900



Simulated Distillation (SIMDIS)

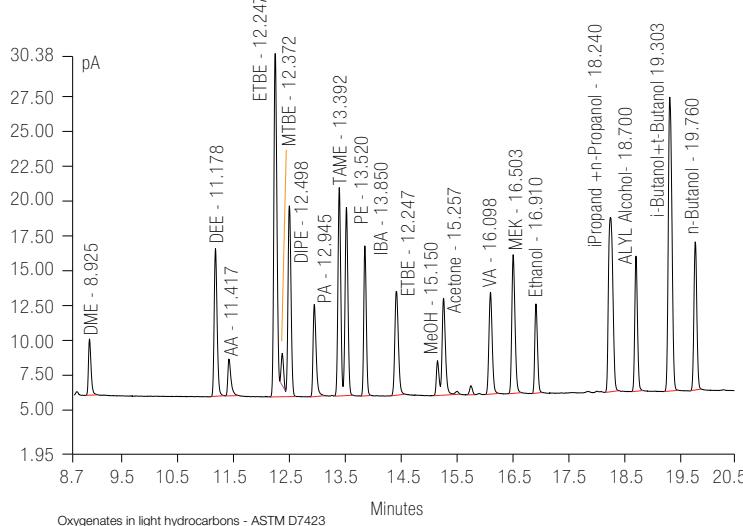
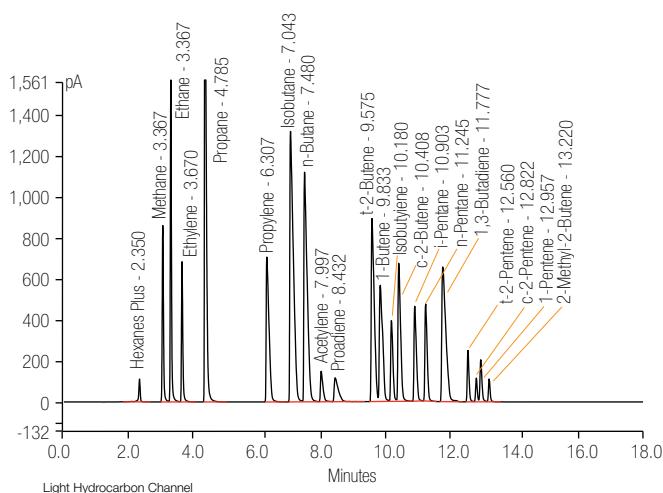
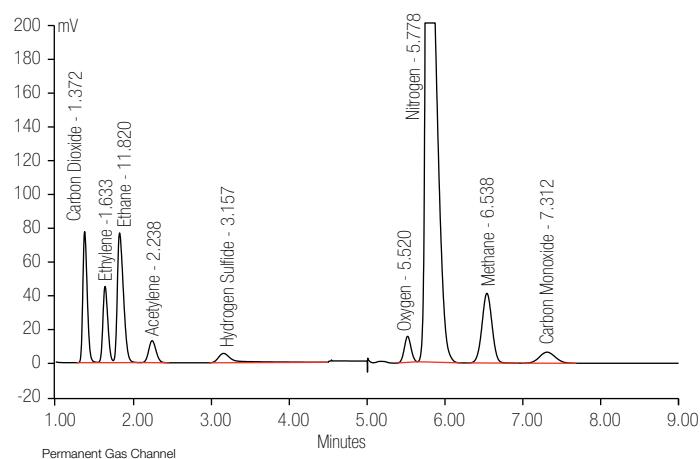
SIMDIS Analyzers meet all industry standard methods covering boiling point requirements up to 750 °C.

- ✓ Two configurations: cryo or no cryo
- ✓ Five mode kits for fast startup
- ✓ Simple connectivity

Refinery Gas Analysis

A full range of GC analyzers are available to meet the varying types of refinery gas samples - high pressure gases, high pressure liquids, or liquefied petroleum gas (LPG).

- ✓ Six base configurations - 3 or 4 channel
- ✓ True independent 4th channel
- ✓ Acid Gas/High Sulfur compatible systems



Product Quality/Specification Analyzers

Complete turnkey analyzers for all critical product testing requirements for fuels, light hydrocarbons, and additives.

- ✓ LHA, Oxygenates, Aromatics, in liquids and gases
- ✓ Dual channel analyzers available for high throughput
- ✓ Combination systems for flexibility in a single GC



Find out more at thermofisher.com/oilandgas

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