



# Refinery Gas Analyzer

Separates C1 through nC6, C6+ Hydrocarbons and Inert Gases

- Isolated Left Side Valve Box for Valves, Columns and Detectors ensures Superior Robustness
- Applies to a Broad Sample Scope of both Gaseous and Liquefied samples
- Excellent Repeatability through Automated Sample Shutoff Valve and Sampling Devices
- RGA/NGA XLNC Software Automates Gas Properties Calculations

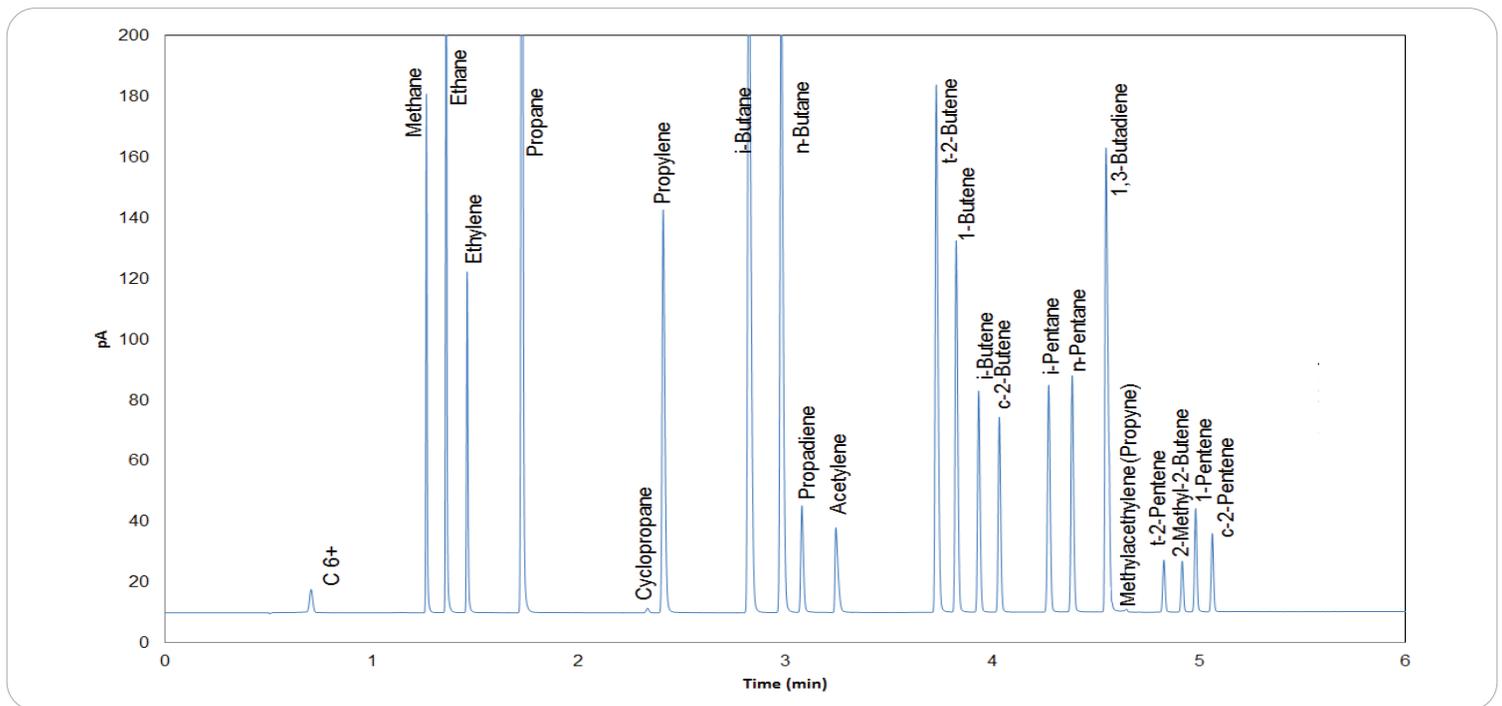
# HiSpeed Refinery Gas Analysis

## SUPER HIGH SPEED REFINERY GAS ANALYSIS IN JUST 5 MINUTES

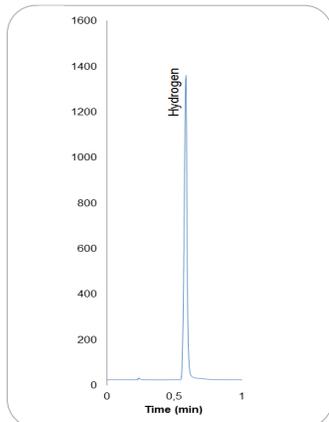
Refinery gas streams vary considerably in composition. Determining individual components of each gas stream is a challenge. An exact measure of stream components is essential in achieving optimum control and assuring product quality. AC Analytical Controls offers the Hi-Speed Refinery Gas Analyzer, the high-speed solution that determines and reports the composition of refinery gas streams.

The Hi-Speed RGA system characterizes:

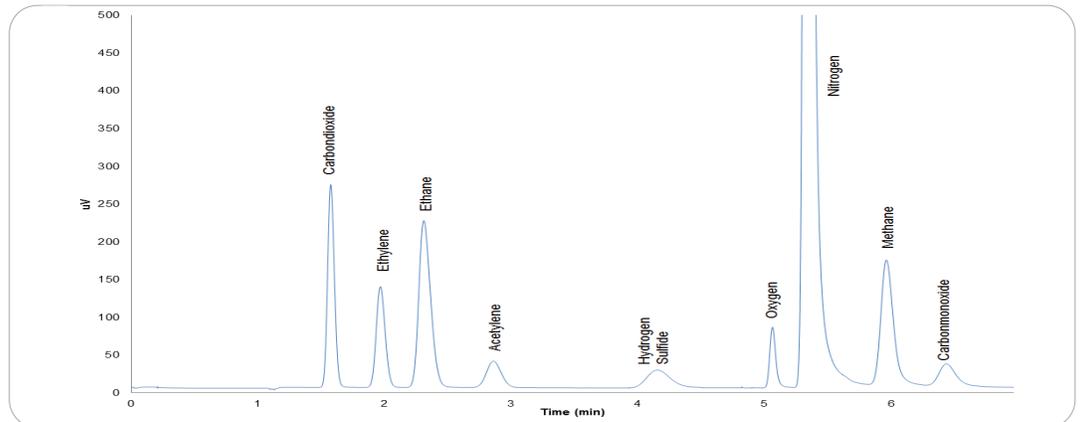
- ⊕ C1 - nC6, C6+ hydrocarbons
- ⊕ Inert gases: nitrogen, hydrogen, helium, oxygen, carbon monoxide, carbon dioxide
- ⊕ Hydrogen sulfide
- ⊕ BTEX (Benzene, Toluene, Ethylbenzene, Xylenes), using the RGA extended method with a total analysis time under thirty minutes



Hydrocarbons Channel with C6+ Backflush



Hydrogen/Helium Channel

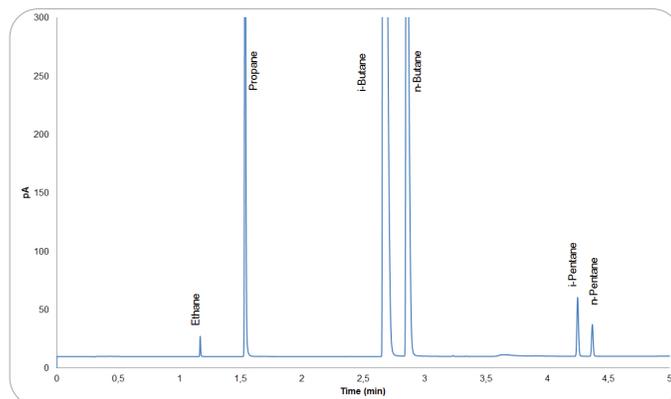


Permanent Gases and Hydrogen Sulfide Channel

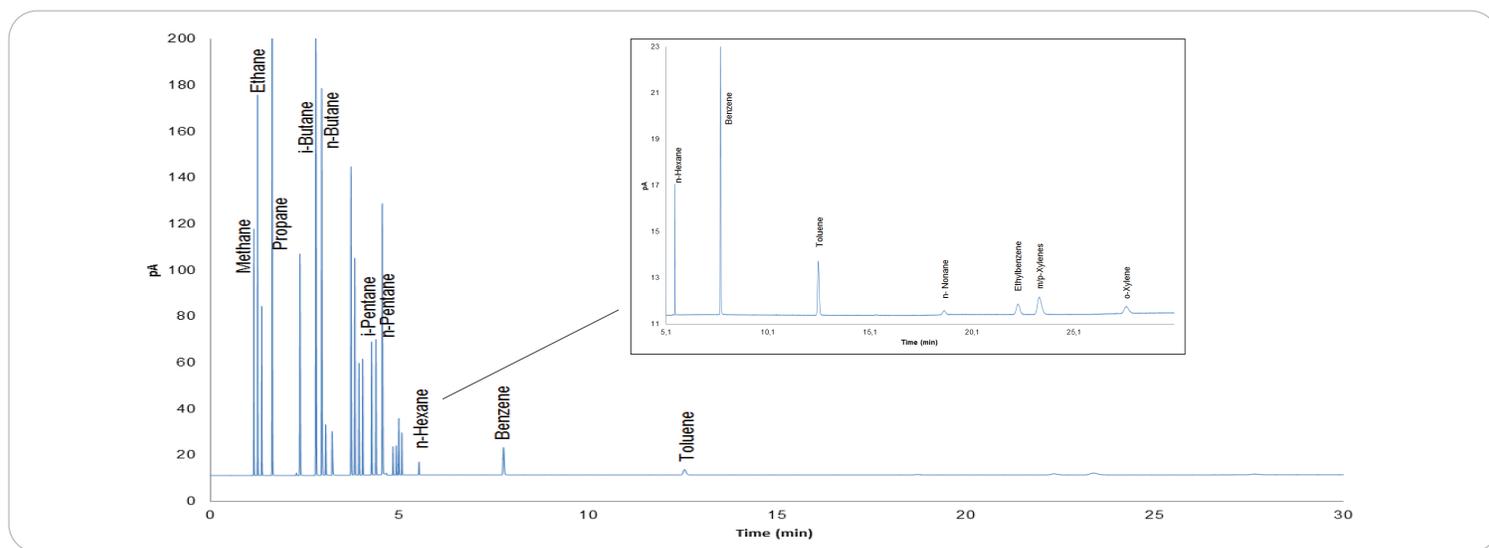
## ROBUST AND COST-EFFECTIVE DESIGN

The Hi-Speed RGA system contains six columns and is subdivided into three separate analytical channels. One channel determines helium and hydrogen, the second channel is used to determine oxygen, nitrogen, carbon monoxide and carbon dioxide. The third channel separates the hydrocarbons on the PLOT column using the FID for detection. Optionally a programmable 13X column is available for easy conditioning and maintaining optimum separation of Oxygen, Nitrogen, Methane and Carbon Monoxide.

Valves are mounted in the dedicated left side to provide superior thermal control, leak free operation and easy access. The use of Sulfinert ensures optimal resistance to corrosive materials. The Hi-Speed RGA system is flexible and each channel can be used separately. Optionally, the Hi-Speed RGA can be configured with a liquid sampling valve to dedicate the analysis to liquefied samples or a dedicated Sampling device. Together with the default automated shutoff valve they provide superb repeatability and robustness to the analyzer.



LPG Sample Analysis using the Hi-Speed RGA



Hi-Speed RGA in Extended Mode allows Analysis of BTEX

## ACCURA SAMPLING DEVICE

The ACCURA provides safe and accurate sampling of compressed liquids and gasses. It is a temperature and pressure controlled vaporizing injection device that respects sample integrity completely. The resulting data are more accurate and precise, which translates in a narrower product specification and better refining profit.

Operational advantages are:

- Highest accuracy and precision through uncompromised sample integrity
- Easy to use
- Maximum operator safety
- Can be used for GC and ElemeNtS system for gas and liquid samples



# TECHNICAL SPECIFICATIONS

Ordering Information	
GCG2330A GCG2330C	RGA Hi-Speed System on 120V 8890 GC RGA Hi-Speed System on 230V 8890 GC
GCG2335A GCG2335C	RGA Hi-Speed System, incl. LSV on 120V 8890 GC RGA Hi-Speed System, incl. LSV on 230V 8890 GC
GCG2336A GCG2336C	RGA Hi-Speed System, incl. LSV, Inert on 120V 8890 GC RGA Hi-Speed System, incl. LSV, Inert on 230V 8890 GC
GCG2330.001	Programmable 13X for Hi Speed RGA on 8890
36.00.002	ACCURA FOR GC, 120/230V
GCG2330.100	Kit, Spare Parts Hi-Speed RGA
GCG2330.200	Kit, Consumable Parts Hi-Speed RGA
GCG2335.100	Kit, Spare Parts Hi-Speed RGA, incl. LSV
GCG2336.100	Kit, Spare Parts Hi-Speed, incl. LSV, Inert
GCG2336.200	Kit, Consumable Parts Hi-Speed, incl. LSV, Inert

## Standard Methods

ASTM D1946, ASTM D7833, ASTM D2598, ASTM D3588, EN ISO 7941, ASTM D2163, IP 405, EN 15984, DIN 51666, UOP 539

## Analysis Range

Analytes	C1-C6 Hydrocarbons , C6+, He, N2, H2, O2, H2S, CO, CO2, Benzene, Toluene, Ethylbenzene, Xylenes, C7, C8, C9
Sample Range	Atmospheric overhead Ethylene FCC Overhead Fuel Gas Recycle Gas Desulfurizer Gas LPG Propane Butane Butadiene Propylene
Max Sample Pressure Rating	Gas: 375 psi 25.8 bar (higher pressure rating available on request)
Linear Dynamic Range	Hydrocarbons <0.01 - 100 mol% Inert Gases <0.02 - 100 mol% H2S <0.1 - 100 mol%
r / R	Accordinging reference method, typically < 0.5% peak area

## RGA/NGA XLNC for IRIS Software

PAC developed the new program that offers an extensive range of report options and allows a multilevel calibration and accurate calculation of gas properties. The software also include calculations for oxygen correction (ISO 6974-3) and bridge calculation. The software allows to add customized calculations or edit existing calculations, and is compatible with major chromatographic data systems.

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



## ABOUT PAC

PAC is a leading global solution provider of advanced analytical instruments for laboratories and online process applications. Our solutions are from industry-leading brands: AC Analytical Controls, Advanced Sensors, Alcor, Antek, Cambridge Viscosity, Herzog, Icon Scientific, ISL, Phase Technology, and Uson.

We are committed to delivering quality and superior local customer service worldwide. With 15 office locations and a network of over 50 distributors, PAC operates as a unit of Indicor, LLC, a diversified technology company that is a constituent of the S&P 500, Fortune 1000, and Russell 1000 indices.

## HEADQUARTERS

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PAC representative closest to you.

