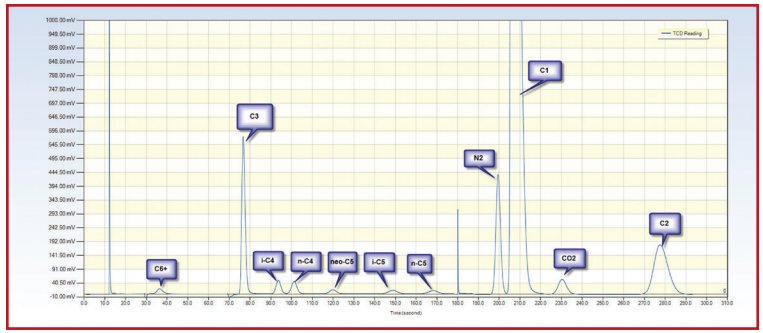
ACCUCHROME GC SELECTED SPECIFICATIONS

Analysis Components	C6+ or C7+ configurations available C1, C2, C3, I-C4, C4, I-C5, C5, C6, C7, N2, CO, CO_2, O_2 (remaining C6+ or C7+)
Repeatability	±0.25 Btu/scf per 1,000 Btu (±0.0093 MJ/m³ per 37.3 MJ/m³)
Linearity	1%
Measurement Range	800 to 1,500 Btu/scf (29.8 MJ/m³ to 55.9 MJm³)
Oven Temperature Range	-4˚ to 140˚ F (-20˚ to 60˚ C)
I/O Capabilities Output	3 – Modbus serial ports (up to 8 serial ports optional) 2 – Ethernet (one for local GUI, one for Modbus TCP) 4 – Replaceable SPDT 8A relays (3 alarm, 1 fault) 4 – 4 to 20 ma loop- or self-powered (optional additional 32 isolated 4 to 20 ma) 1 – Single PID controller with PWM control
Inputs	1 – MMI external keypad 3 – Universal analog with programmable gain 2 – Isolated digital (wet) 2 – Digital (dry)
I/O Protocol	Modicon 16, Modicon 32, Enron/Daniel, user-configured SCADA lists available
Area Classification	Class 1, Division 1, Groups B, C & D Class 1, Division 2, Groups B, C & D
Power Requirements	100 watts start up, 50 watts continuous 24 VDC or 90 to 240 VAC 50/60 Hz (Optional)

Please note: we work continuously to improve the performance of our products – all specifications are subject to change without notice.



Typical Chromatogram for Natural Gas

Galvanic assures flexible, headache-free installation and operation

Galvanic Applied Sciences' expert support team will work with you to determine the best, most cost-effective way for your facility to meet your Btu and component-analysis needs. Galvanic's high-performance analyzers are calibrated to your exact specifications and custom-configured at the factory to integrate seamlessly into your existing infrastructure. Galvanic can also supply other key components and services for a total integrated solution – from custom designs and field commissioning for your systems – to analyzer shelters and sample-conditioning panels.

GALVANIC APPLIED SCIENCES

ISO 9001-2008

ANG5214 | June 2015

Application Insight: AccuChrome™ GC Btu & Hydrocarbon Analyzer

Cost-Effective Component Analysis in the Natural Gas Fractionation Process

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PETROCHEMICAL REFINERIES / CHEMICAL PLANTS # 5

Drilling in natural gas (NG) shale formations has changed the NG exploration and production industry significantly over the last several years. With the advent of horizontal drilling and hydraulic fracking, vast new reserves of hydrocarbons have been opened up. Large quantities of natural gas liquids (NGLs) are extracted along with NG and crude oil, changing the competitive landscape for petrochemical and NG processing industries.

Previously, petrochemical manufacturers had to rely on products from refined crude oil as the raw material for their products; the high price of refining made it an expensive feedstock. Today, the large quantities of extracted NGLs offers a relatively low-cost, high-value alternative for petrochemical manufacturers. Accordingly, NG processers are paying special attention to the processing and fractionation of NGLs.

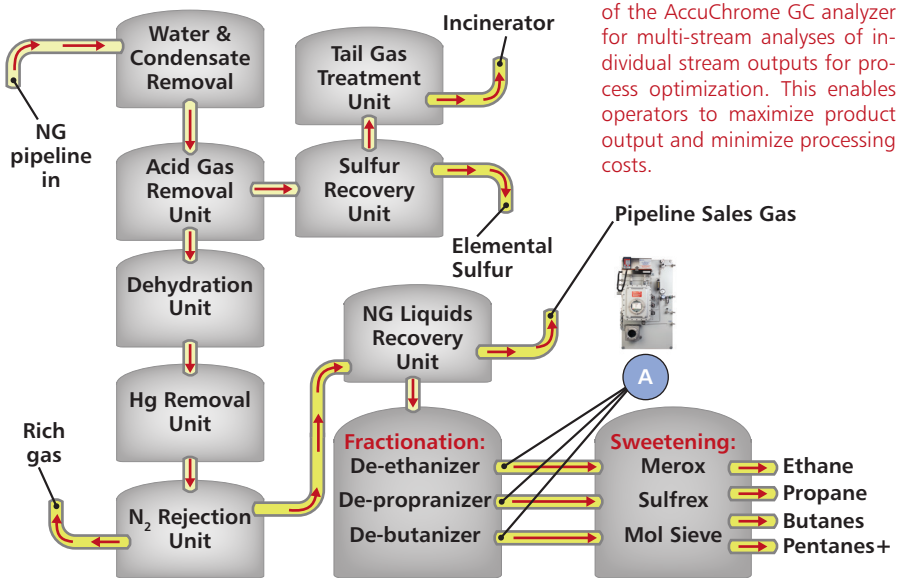
The new AccuChrome GC from Galvanic Applied Sciences offers superior accuracy in a compact, rugged package. A high-performance, low-maintenance gas chromatograph, the AccuChrome GC can integrate seamlessly into your existing infrastructure. That, and its economical cost of operation, make the AccuChrome GC one of the highest-value NGL component analyzers on the market.

Maximizing Value Through Component Analysis During Fractionation of Natural Gas Liquids

Fractionation of NGLs involves the boiling off of lighter base components of the liquid and working down until just the heavier components remain. In many cases, a boiler is used to heat the NGLs. In warmer climates, the ambient temperature may enable a less-energy-intensive boiling-off method. The process involves component-separation steps from lighter to heavier: de-ethanizer, de-propanizer and de-butanizer. Sometimes a fourth step, called a butane splitter, may also be employed to separate the isobutane and n-butanes.

Monitoring individual streams for component concentration provides critical information regarding the purity and unwanted residual intermix of each stream. Accurate analysis allows for optimization of the process by adjusting temperatures, inlet/outlet flows or internal tank pressures – key to maximizing product output and minimizing processing costs. Galvanic's AccuChrome GC with multi-stream capability makes analysis of up to eight streams at once easy and cost effective.

The figure below depicts a typical natural gas processing facility.



Point A shows ideal placement of the AccuChrome GC analyzer for multi-stream analyses of individual stream outputs for process optimization. This enables operators to maximize product output and minimize processing costs.

Designed and built to optimize performance in the harshest monitoring environments, Galvanic's AccuChrome GCwith auto calibration and validation capabilities enables fully hands-off operation. It delivers the utmost in ease-of-operation, precise measurements, consistent, field-proven performance – and value.

AccuChrome GC Btu & Hydrocarbon Analyzer

The AccuChrome GC NG component analyzer is Galvanic's third generation of gas chromatographs for the natural gas industry, designed to meet your toughest analytical challenge. We know what it takes to keep your analyzer up and running. We have extensive sample-conditioning experience and our service and support are second to none.

The enhanced capabilities of the AccuChrome GC make it an ideal economical choice for all your component analyses. With excellent repeatability across a wide operating temperature range, the analyzer delivers ±0.25 Btu/scf per Btu.

Ethernet connectivity provides a safe, user-friendly local interface, and the analyzer also features remote-access PC software, so whether you're on site or around the globe, you can gather all the Btu measurement information you need. Expansive storage capacity means you can log large amounts of data to decrease the frequency of data downloads. This frees your operations staff to concentrate on completing other critical tasks.

The AccuChrome GC thermal conductivity detector is less susceptible to fouling than micro-machined technology and will not fail due to loss of carrier gas. It is also resistant to the corrosive characteristics of H_2S.

Generate standard modbus protocol or multiple modbus lists for access by SCADA – the AccuChrome GC's fully featured I/O capability (including up to eight serial ports and Ethernet modbus) makes it possible. Plus, the AccuChrome GC's multi-stream capability (up to 8) simplifies your analytical system; one high-performance analyzer can perform sequential measurement of multiple-analysis points.

The AccuChrome GC delivers all you need for fast, accurate NG component analysis and remote monitoring:

- Accurate NG component analysis and Btu calculation (±0.25 Btu per MCF)
- Multi-stream capability (up to 8 streams)
- Rugged field-proven construction & full auto calibration / validation capabilities for full stand-alone operation
- Airless heat sink oven & industry-leading, low-maintenance injection valves
- TCD will not burn out with loss of carrier gas and can withstand corrosive H_2S
- Designed for easy serviceability throughout
- High-resolution local display & user-friendly software
- Extensive I/O options: Ethernet TCP/IP modbus and up to 8 additional serial ports
- 32 GB expansion storage capacity & complete audit trail of all results
- Standard or customized reports, including location, technician, & comments