

Industrial

Thermo Scientific Gas Chromatograph Analyzers

TRACE 1610 GC Natural Gas Analyzer for GPA 2261

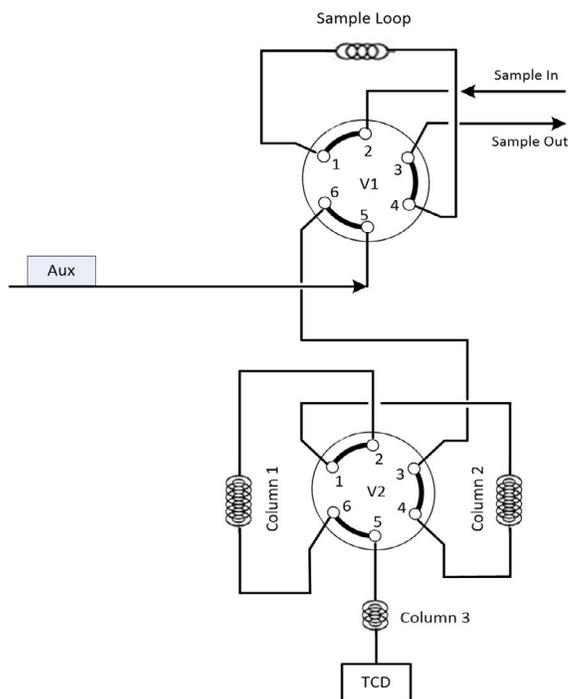
Overview

This Thermo Scientific™ Natural Gas Analyzer analyzes natural gas (NGA) samples to determine the British Thermal Content (BTU) as outlined in GPA Method 2261. The system, based on the Thermo Scientific™ TRACE™ 1610 gas chromatograph, analyzes a single natural gas sample on a single channel Thermal Conductivity Detector (TCD) configuration.

A configuration with two single-channel setup (2x TCD) is available to allow simultaneous analysis of two different samples for increased throughput. In this case, a larger heated auxiliary oven (standard) is used to allocate all the packed columns.

Key features

- Modular Thermo Scientific™ iConnect™ detectors to facilitate troubleshooting and maintenance
- Simultaneous analysis of two samples to increase productivity
- Repeatability <1%
- Dedicated BTU reporting in Thermo Scientific™ Chromeleon™ CDS
- Compliant with GPA 2261, ASTM D1946, ASTM D3588 Single Channel Thermal Conductivity Detector (TCD)



Schematic of the single channel NGA Analyzer for GPA 2261

Single Channel Thermal Conductivity Detector (TCD)

- Sample: Natural gas
- Gas sampling valve
- Components: C6+ regroup, nitrogen (air composite), carbon dioxide, methane, ethane, propane, i-butane, n-butane, i-pentane, n-pentane
- Independently heated compact auxiliary oven with two valves
- Three packed columns in the GC oven
- Plumbed with sulfur-resistant tubing

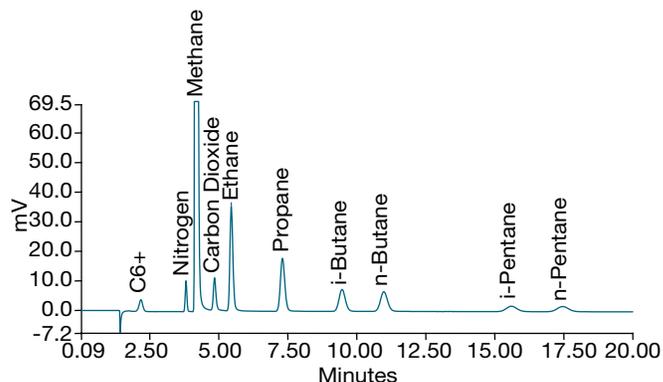
Optional

- Additional packed column and additional valve for oxygen/nitrogen separation
- Second TCD channel for hydrogen/helium separation

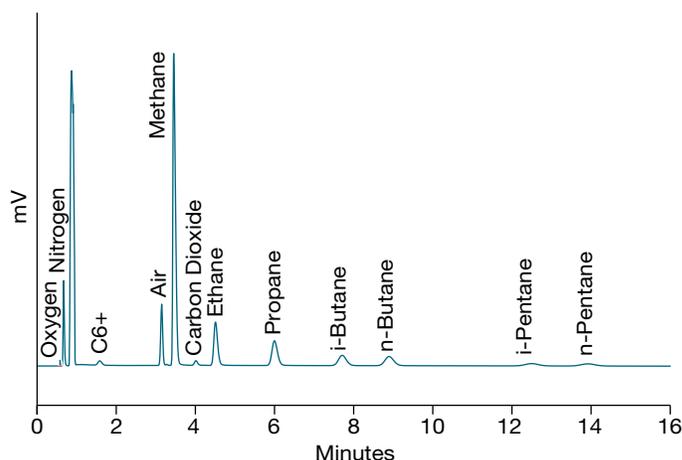
For each of the above options, the compact auxiliary oven is replaced by the standard auxiliary oven.

Natural gas system specifications

Method	GPA 2261	GPA 2261 with air separation
Sample	Natural gas	Natural gas
Detectors	TCD	TCD
N ₂ (air composite), CO ₂	Yes	Yes
O ₂ /N ₂ separation	No	Yes
He/H ₂ separation	Optional (with additional TCD channel)	Optional (with additional TCD channel)
Hydrocarbons	C1-C5 with C6+ regroup	C1-C5 with C6+ regroup
Repeatability	<1.0%	<1.0%
MDL hydrocarbons	0.005%	0.005%
MDL perm gases	0.01%	0.01%
MDL H ₂ S	0.05%	0.05%
Valves per channel	2	3
Columns per channel	3 packed	4 packed
Sulfur inert	Yes	Yes



Natural gas sample with C6+ regroup



Natural gas sample with C6+ regroup and N₂/O₂ separation

Tailored analyzers for specific application needs

Thermo Fisher Scientific offers a suite of analyzers for natural gas, natural gas liquids, and liquefied petroleum gas. TRACE 1610 GC Analyzers for NG/NGL conduct analyses according to standard methods from regulatory agencies, such as the GPA, ASTM, ISO, and DIN, including determination of calorific or BTU content, hydrocarbon speciation, and impurities. Single channel, dual channel, or multi-method combination systems are available to meet your requirements.

Learn more at thermofisher.com/gcsystems