

Industrial

Thermo Scientific Gas Chromatograph Analyzers

TRACE 1610 GC Natural Gas Analyzer extended for GPA 2186 and GPA 2177

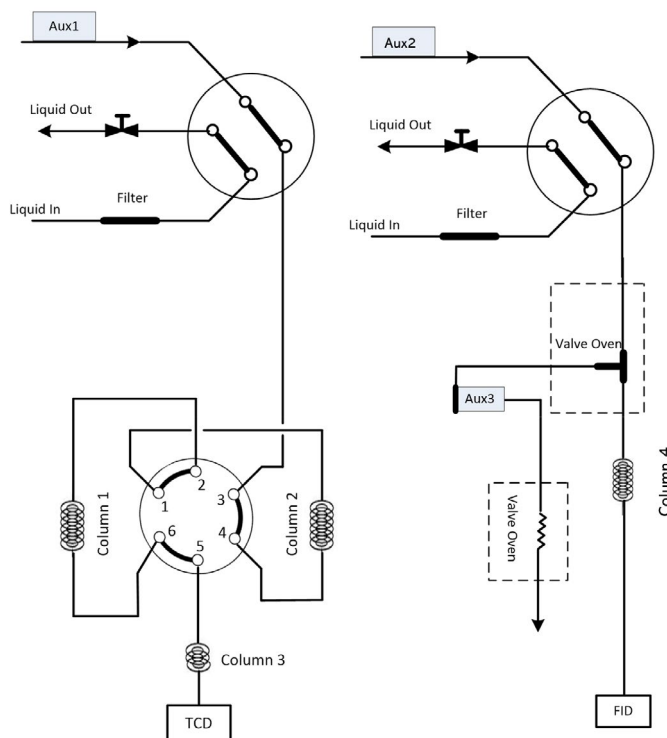
Overview

This Thermo Scientific™ Natural Gas Analyzer analyzes natural gas liquid (NGL) samples to determine the British Thermal Content (BTU) as outlined in GPA Method 2186. The system, based on the Thermo Scientific™ TRACE™ 1610 gas chromatograph, analyzes a single NGL sample on a dual-channel Thermal Conductivity Detector (TCD) and Flame Ionization Detector (FID) configuration.

A configuration with two dual-channel setup (2x TCD and 2x FID) is available to allow simultaneous analysis of two different samples for increased throughput.

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 2186, GPA 2177, ASTM D2163, ASTM D2598



Schematic of the dual channel NGL Analyzer for GPA 2186 and GPA 2177

Channel one: Thermal Conductivity Detector (TCD)

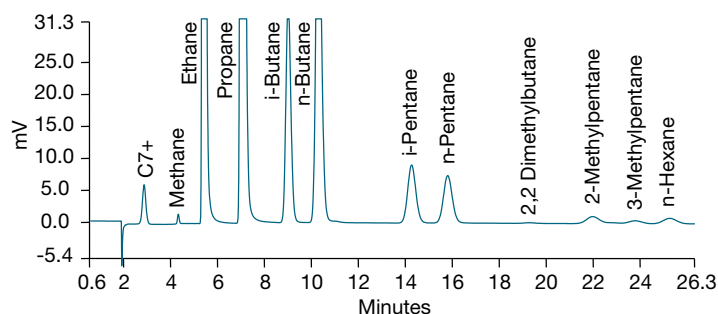
- Sample: Natural gas liquid
- High pressure liquid injection valve
- Components: C7+ regroup, nitrogen (air composite), methane, carbon dioxide, ethane, propane, i-butane, n-butane, i-pentane, n-pentane, 2,2 dimethylbutane, 2-methylpentane, 3-methylpentane, n-hexane
- Independently heated auxiliary oven with two valves
- Three packed columns in the auxiliary oven
- Plumbed with sulfur-resistant tubing

Channel two: Flame Ionization Detector (FID)

- High pressure liquid injection valve
- One capillary column in GC oven
- Components: C1-C16 hydrocarbons

Natural gas system specifications

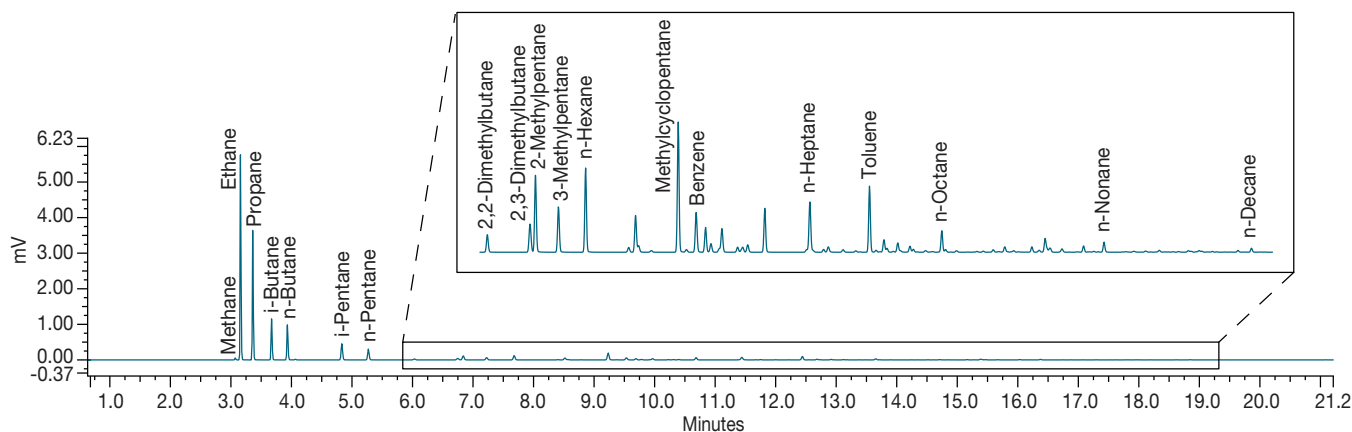
Channel	TCD channel	FID channel
Analysis	Natural gas liquid C7+	Natural gas liquid C1-C16
Detectors	TCD	FID
N ₂ (air composite), CO ₂	Yes	No
O ₂ /N ₂ separation	No	No
He/H ₂ separation	No	No
Hydrocarbons	C1-C6 with C7+ regroup	C1-C16
Repeatability	<1.0%	<1.0%
MDL hydrocarbons	0.005%	0.001%
MDL perm gases	0.01%	NA
MDL H ₂ S	0.05%	NA
Valves per channel	2	1
Columns per channel	3 packed	1 capillary
Sulfur inert	Yes	Yes



Natural gas liquid TCD channel with C7+ early regroup

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.



Natural gas liquid extended FID channel

Learn more at thermofisher.com/gcsystems