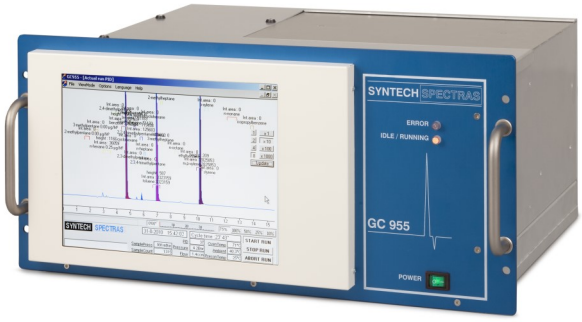
SYNSPEC SPECTRAS

GC955-118 METHANE/THC/TNMHC ANALYSER



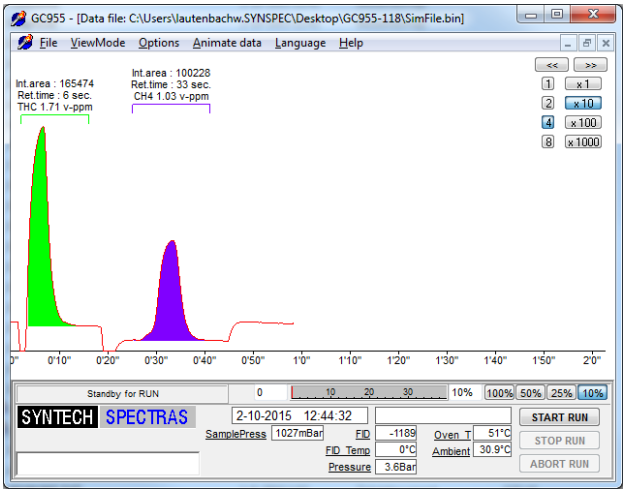
Measurement of Methane and the sum of all hydrocarbons in air

The greenhouse gas Methane is measured by a true measurement principle, no interference of other molecules. The separation works without scrubbers, it is a chromatographic principle.

In the same measurement cycle the sum of all hydrocarbons is determined with the integrated FID detector.

The amount of non-methane hydrocarbons is determined from the difference between the measurement of the concentration of methane and the effective concentration of the sum of all hydrocarbons.

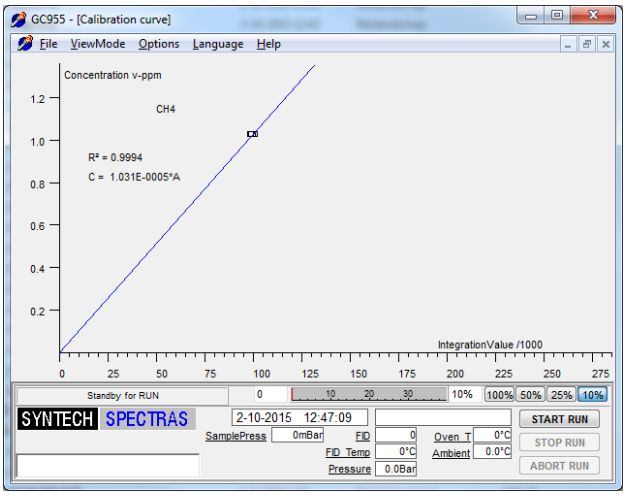
The instrument is designed for fast emission control, with a cycle time less than two minutes.



Configurations

Synspec produces several versions of Methane/Non-Methane hydrocarbon analysers:

- The basic analyser is the **Synspec Alpha 115** for ambient air measurements, in cities or near industries.
- The **Synspec Alpha 116** for stack monitoring with a high range is suitable for stack measurement up to 1000 ppm.
- The **Syntech Spectras GC955 114** analyser for background measurement is designed for measuring low concentrations of TNMHC.
- The **Synspec Delta THC** analyser for stack measurements and runs at a temperature of 125 °C (US EPA-25A)
- The **Syntech Spectras GC955 118** analyser for fast emission control.



Measuring principle

The gas is sampled in two loops simultaneously. After injection, the sample from one loop passes directly without separation into the FID detector.

The sample from the second loop is injected into a GC column. The methane passes into the detector and immediately after that, all the NMHC-compounds are back flushed back out of the column.

This results in two peaks generated by the FID: a THC and a methane-peak.

The smart combination of two 10-port-valves allows for quick measurements: the cycle time is less than two minutes.

Synspec b.v.

METHANE MEASUREMENT

For a correct measurement of the methane it is required to have methane free carrier gas.
Any zero air generator must run with a catalytic methane scrubber, working with a good catalytic material and working at a temperature of at least 400 °C. Maintenance should be done as prescribed by the supplier.
Synspec can deliver a suitable gas generator.

Syntech Spectras GC955 series 118 Methane/THC/TNMHC analyser

SPECIFICATIONS	Detector: FID
CYCLE TIME	Less than 2 minutes
GAS REFRESH RATE	Effective sample gas flow extracted when available at ambient pressure at the gas inlet of the GC: > 500 ml/min
GAS CONSUMPTION	FID : Zero air, quality 5.0, dry and clean, ***methane free***, 2.5 bar, 250 ml/min, Carrier gas: Zero air, quality 5.0, dry and clean, ***methane free***, 2.5 bar, 50 ml/min, Hydrogen, quality 5.0, 3.5 bar 25 ml/min
RANGE	0.1 — 30 ppm for Methane 0.1 — 100 ppm(c) for THC Non-methane hydrocarbons determined from difference between measurements of methane and THC
REPEATIBILITY SPAN DRIFT LINEARITY	<1% of FS <2% of FS in 24 hrs <1% of FS
	HARDWARE AND COMMUNICATION OPTIONS
INCLUDED HARDWARE	Industrial X86 based computer, solid state hard disk, 10.1” full colour touchscreen, keyboard and mouse
INCLUDED SOFTWARE	Windows Embedded, GC Software
COMMUNICATION	External data communication via RS232, analogue and digital outputs and TCP-IP.
GC SPECIFICATIONS	Column cage with special application column, double Vici 10-port valve Double loop for CH_4, and total-VOC respectively, detector FID
	PHYSICAL DATA
DIMENSIONS	19” rack, 5 standard Height Units, depth 39 cm net (W 48,3 D 43 H 22 cm), weight 19 Kg
POWER DEMAND	230 V AC, 200 VA (115 V AC available)
CONDITIONS	5 TO 40 °C, 20 TO 95 % Relative Humidity non condensing
	GENERAL
APPROVALS	CE approval for EMC conformity: EN 61000-6-2, EN 61000-6-3, EN 61010, EN 61326
OPTIONS	Multi channel selector type VICI dead end or flow through, 6 to 15 stream, internal pump 5 L/min (up to 100 meter) Synspec FIDStation Gas generator US-EPA method 25A compliant

SYNSPEC BV
DE DEIMTEN 1
9747AV GRONINGEN
THE NETHERLANDS
WWW.SYNSPEC.NL
INFO@SYNSPEC.NL