

SYNTECH SPECTRAS ETHENE ANALYZER



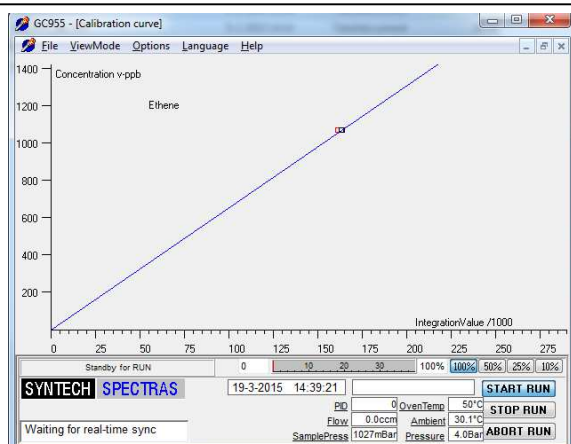
THE SYNTECH SPECTRAS ANALYSER FOR MEASUREMENT OF ETHENE IN PROCESS GAS, AMBIENT AIR AND OTHER GASES.

Ethene or ethylene is a compound that requires monitoring for several reasons:

Ethene will be present in various industrial processes and needs control.

In high concentrations it is explosive. When emitted in ppm concentrations it contributes to the development of ozone.

The special characteristic of ethene is its biological property as a plant hormone, leading to change in the regular plant growing process, so that length growth, flowering and ripening are disturbed. Synspec is specialised in this application. Synspec has delivered analysers from low ppb to % range for ethene



Calibration of ethene.

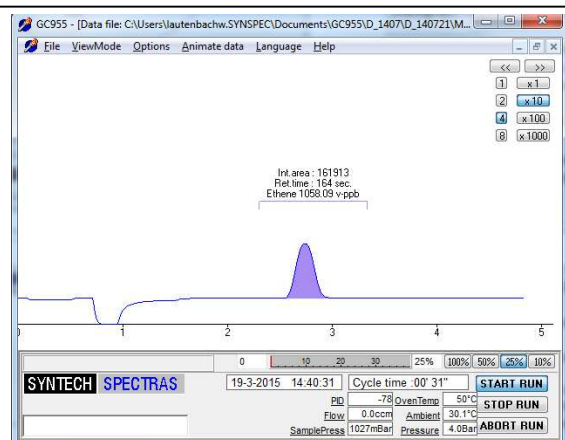
HYDROCARBON MEASUREMENT

The measurement of ethene in a mixture with a gas chromatograph requires separation of disturbing compounds.

Ethene is often present mixed with other molecules containing 2 carbon atoms, ethane and acetylene. For the separation a suitable column is needed.

Not many other organic molecules have a boiling point in the range of ethene.

Inorganic molecules with the same boiling point are normally not sensitive to the same detector.



Measurement of 1 ppm Ethene.

SYNTECH SPECTRAS GC955 120 ETHENE ANALYZER

The instrument is a gas chromatograph with an automatic sampling loop.

After injection the ethene is separated from other compounds on a special type of column.

The use of a sample dryer is strongly advised, to avoid instability of the measurement due to the influence of water. Synspec can provide suitable equipment if required.

The detector is a photo ionization detector with a good sensitivity for ethene and no sensitivity for the other C2 hydrocarbons.

The setting for the GC is optimized for ethene, however more compounds could be monitored. In a standard instrument up to 40 peaks can be quantified.

ANALYSIS OF ETHENE

Analyzer details

The instrument is a gas chromatograph with a built-in sample loop system. The sample is collected in the loop and automatically injected on a packed Hayesep D column, to reach optimal separation from interfering hydrocarbons. Alternative columns are available depending on the interference experienced. Analysis is done by a photo ionization detector. This ensures a high specific sensitivity for Ethylene.

Simple operation, good reliability and low maintenance cost are important to us. With a worldwide network of trained distributors the end-user can be sure that the analyser comes with an individualized training and that local support is available to help when needed. The Syntech Spectras GC955 consumes a small quantity nitrogen as carrier gas.

Calibration and maintenance

Preventive maintenance is only required once a year. For of good quality data it is recommended to have a regular (automatic) calibration or validation .In the software an automatic validation / calibration is possible using calibration gas of one concentration per component.

The expected lifetime of the analyzer is 10 years. Our warranty is 2 years.

Software

A industrial PC with Windows embedded is used.

The user-friendly software stores all the chromatograms on the hard disk and data can be interpreted easily with this intuitive software.

Data can also be transferred by network and modem connection. Besides this, analogue and digital output options are available to communicate with other data logging systems using several data protocols.

120 SYNSPEC GC955-120 Ethylene ANALYSER

SPECIFICATIONS

Detector: 10.6eV PID, Synspec quality selection,
Column: stripper and analytical packed column with Hayesep D, Cycle time: 5 min

GAS CONSUMPTION

Nitrogen, quality 5.0, 4 bar, 20 ml/min

RANGE

With 500µL loop: 20 vppb — 100 vppm Ethylene
With 250µL loop: 100 vppb—500 vppm Ethylene

REPEATABILITY

<1% of FS

SPAN DRIFT

<2% of FS in 24 hrs

LINEARITY

<1% of FS

HARDWARE AND COMMUNICATION OPTIONS

INCLUDED

Computer Pentium class, solid state hard disk, 10.1" full colour touchscreen, keyboard and mouse

HARDWARE

INCLUDED

Windows Embedded, GC Software

SOFTWARE

COMMUNICATION

External data communication via RS232, TCI-IP, analog and digital outputs.

GC SPECIFICATIONS

Packed 1/16" column, Vici 10-port valve, isothermal

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% Rh

GENERAL

EXTRA FUNCTION

Combination with multi point sample system possible:
Stream selector type dead end or flow through, 6 to 16 stream, pump 5 L/min (internal) or on demand external.
Combination with RS232 alarm out puts 4-20mA up to 15 stream.

