

SYNTECH SPECTRAS BENZENE / BTEX ANALYSER



OUR MOST SUCCESSFUL PRODUCT

The Syntech Spectras GC955 series 600 BTEX analyser is built for the measurement of benzene, toluene and xylene isomers in ambient air. It is our most successful product, about one thousand of these analysers are standing all around the world.

HYDROCARBON SELECTION

Benzene is a carcinogenic compound, which may lead to leukemia. This means that there is not really a safe concentration for benzene. A lot of work has been done to estimate how much the ambient air pollution may increase deaths due to cancer.

By European regulations measurement of benzene in ambient air is now obligatory. As of 2010 the yearly mean value must be below 5 µg/m³. The concentration of benzene varies from under 0.1 to above 100 micrograms per m³.

Benzene in the air comes from evaporated fuel, either in gas filling stations or from cars. It is also emitted by burning fuel in cars, and from other burning processes, like bio fuel heating or forest fires.

Our standard analyser set-up includes toluene, ethylbenzene and o-, m-, p-xylene are as standard included in the analyser set-up. They belong to the most active ozone precursor VOC's and have many sources. In some areas the concentration can reach high values that may have harmful toxic effects.

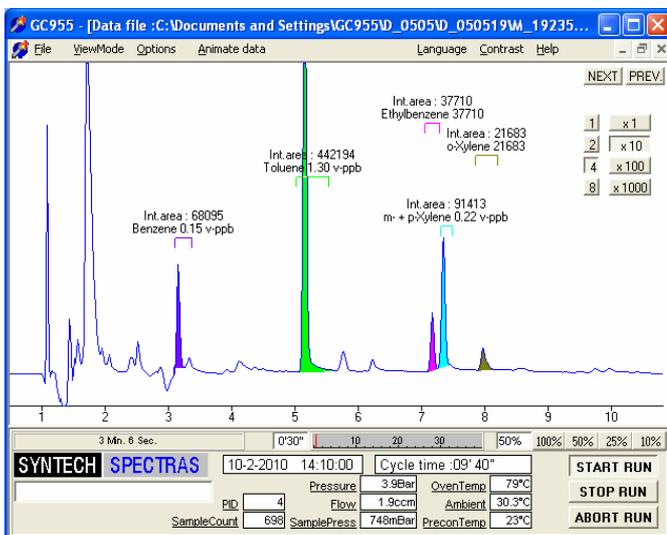
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With different settings and suitable calibration gas it is possible to measure up to 40 components, like octane, chloroethenes, trimethylbenzenes etc. in one 30 minute run. Data processing and communication is prepared for this.

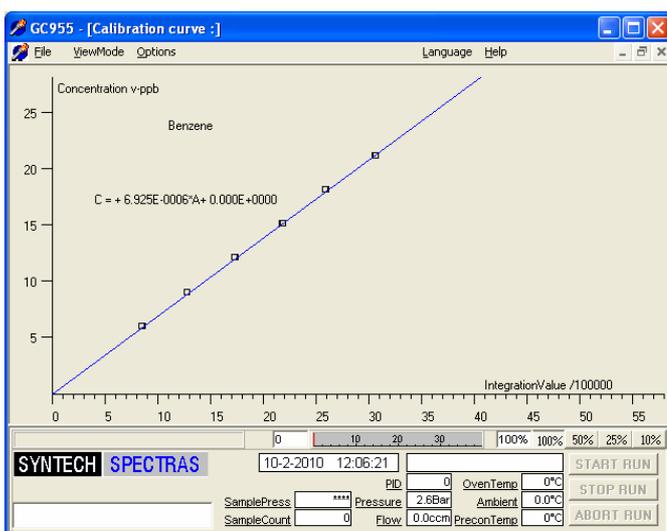
The user will have to buy the suitable calibration gas and needs training to set the system for extra parameters and calibrate for them.

As an alternative it is possible to order a 611 ozone precursor (C6 to C12) system or a toxic hydrocarbon system 615.

The customer can also specify a list of components that have to be measured, for which Synspec can do the calibration.



BTEX measurement in ambient air



Six point calibration test up to 20 ppb

TECHNICAL DETAILS OF THE BENZENE/BTEX ANALYSER

The instrument is a gas chromatograph with a built-in pre-concentration system. Hydrocarbons are pre-concentrated on Tenax GR, desorbed thermally and separated on an EPA624 equivalent column, to reach optimal separation from interfering hydrocarbons. Analysis is done by a photo ionization detector. This ensures a high specific sensitivity for benzene and other aromatic hydrocarbons.

A standard industrial PC with Windows, running under XPe 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.

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.

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

The expected lifetime of the analyser is 10 years. Our standard warranty is one year, with 2 years for the PID lamp.

601	BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES IN AIR.
General	SERIES 600, cycle time 15 min, temp program 50 - 70 °C
Detector	PID detector. Lowest detection level for benzene 0.1 µg/m ³ (0.03 vppb). Range: up to 300 ppb
Column	SY-5 15m, 0.32 mm ID, 1 µm film
Reproducibility	typical <3% at 1 ppb (benzene, with capillary column)
Dimensions	19" rack, 5 standard Height Units, depth 39 cm net
Consumption of gas	Instrument air: none! Nitrogen: quality 5.0, 4 bar, 6 ml/min
Power demand	230 V AC, 100 VA (115 V AC available)
Included hardware	Computer Pentium class, harddisk >3 Gb, 10 " full colour LCD display, I/O 4 x RS232, 2 x USB, Ethernet, PS2 key/mouse
Included software	WindowsXPe, PC Anywhere host, Synspec gaschromatography package
Options	- The software and hardware of the analyzer is prepared in to measure up to 40 hydrocarbons in the boiling point range from 60 °C up to 250 °C. - Ask Synspec for advise about calibration gas and peak window setting. - At an additional price Synspec can calibrate these already upon ordering. - Standard calibration provided for BTEX 4 point in range 4 to 16 ppb
Communication	Control of instrument: direct control via keyboard or mouse, or via remote host (RS232/Ethernet/modem), data exchange protocols available on demand
Certification	CE approval, Approval for EN14662-3, CE approval for EMC conformity: EN 61010-1, EN 61000-6-2 and EN 60111-6-3

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The logo for Synspec BV features a large, stylized orange letter 'S' followed by the text 'ynspec' in a black, lowercase, sans-serif font, and 'bv' in a white, lowercase, sans-serif font.