An Improved Compact GC For Field Testing

NovaTest P300 Integrated Compact Gas Chromatograph

Nanova Environmental, Inc.

VOCS ARE EVERYWHERE

Do you think volatile organic compounds (VOCs) only exist in industrial chemical plants?

Volatile organic compounds (VOCs) are organic chemicals that have low boiling points at ordinary room temperature. They are numerous, varied, and ubiquitous, including both human-made and naturally occurring chemical compounds. Many of them are dangerous to human health or harmful to the environment. Typically, VOCs are not acutely toxic to human beings, but will lead to negative long-term health problems.

VOCs come from various sources, such as gas and fuel, vehicle emission, vehicle interior material decomposition, indoor paintings, cleaning products, refrigerants, polluted underground water, electronics manufacturing, medicine production, food and beverage production plants, and so forth.

Anthropogenic VOCs are regulated by law, especially indoors, where concentrations are the highest. However, people can also take advantage of VOC detection for occasions like production monitoring, security inspection, and scientific studies.

IMPROVING UPON THE PREDECESSOR

Achieve better performance at any location with the upgraded system.

NovaTest P300 is an upgraded compact gas chromatography (GC) system developed from its predecessor, the NovaTest P100. It inherits the transportability, simple operations, user-friendly interface, and accurate analysis capabilities of the P100, while combining the computer and the GC system in a single unit. The upgraded environmental condition control system greatly increases the robustness and accuracy of the instrument. All of these features make the P300 an enhanced tool for reliable field tests without the need for professional training.

MEET THE NOVATEST P300

Highlighted Features

MULTIPLE COMPOUNDS WITH ONE TEST

The P300 separates and analyzes multiple compounds within one single test thanks to the theory of gas chromatography. This saves the user much time by eliminating the need to switch equipment or run multiple tests for VOC mixtures.

COMPACT INTEGRATION

The P300 is small with all necessary parts/accessories built in, i.e. sampling port, VOC trapping unit (pre-concentrator/injection loop), column, detector, carrier gas, battery, laptop.

MODULAR DESIGN

The VOC trapping unit, column, detector, and battery are customizable based on the customer's conditions and requirements.

AUTOMATED SAMPLING

No extra sampling equipment is required. The P300 automatically samples the surrounding air using a built-in VOC trapping unit to minimize the risk of sample loss. Automatic sampling saves time and equipment costs.

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USER-FRIENDLY OPERATIONAL INTERFACE

The user interface is well programmed and straightforward with built-in methods. The testing parameters are preset, allowing the system to instantly generate a report with calculated results. It is simple to operate. No formal training is required.

DISPOSABLE CARRIER GAS

The P300 uses helium in a 95 mL disposable gas cylinder which fits into the built-in carrier gas cabin. The cartridge supports more than 80 hours of testing and is easy to replace.

ROBUST DESIGN

The upgraded environmental control system improves the robustness of the P300, guaranteeing its accuracy and performance under a wide variety of working environments. The system is water-proof, dust-proof, and temperature-controlled.

POWERFUL

The P300 has a detection limit of sub-ppb for benzene and is suitable for a wide variety of applications with more than 300 theoretically detectable compounds.

LESS CONSUMABLES

Instead of using a combination of gases such as nitrogen, hydrogen, and/or argon, the P300 only needs helium as the carrier gas at a low system flow rate. The instant reporting and auto-cleaning functions improve the economy or the system and reduce the amount of required manual work.

SYSTEM HIGHLIGHTS

The P300 is designed to improve environmental monitoring capabilities by combining advanced GC technologies and user-friendly operations in one convenient system.

01

Fewer Settings, Fewer Calculations

The built-in methods have all the optimal programming parameters preset, so the user doesn't need to determine the temperature and pressure for the analysis, as one would for a traditional GC system. The report is generated instantly with compounds matched and concentrations calculated.

02

Easily Transported for Rapid, On-Site Results

The sampling system, gas system, analyzing system, detection system, environmental control system, data processing system, powering system, and accessories are all integrated into one unit. The P300 is a brilliant system capable of conducting complete field tests.

03

Continuous Monitoring

With the looped testing function, the P300 supports continuous tests without operator attendance with sufficient power supply. The frequency of tests is adjustable upon the user's demand. It is a compact GC capable of continuous field monitoring.

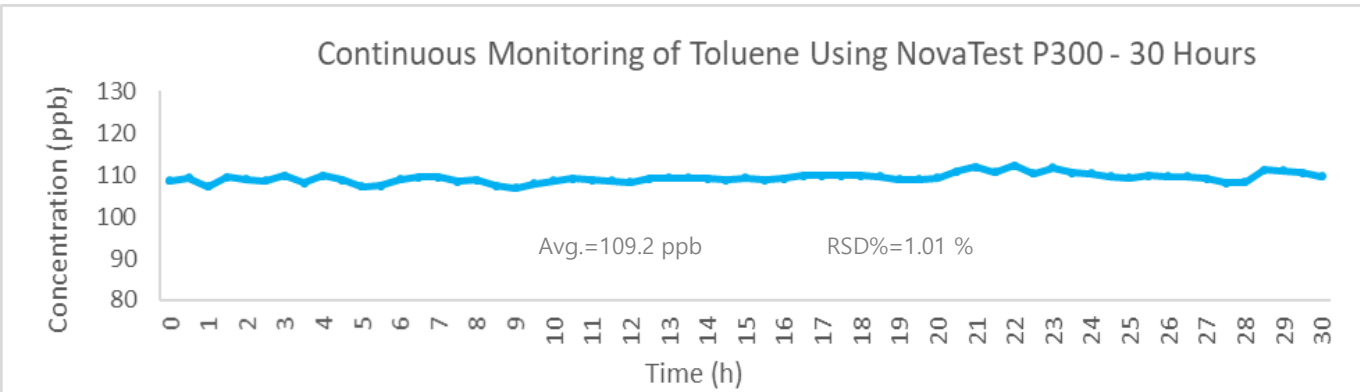
04

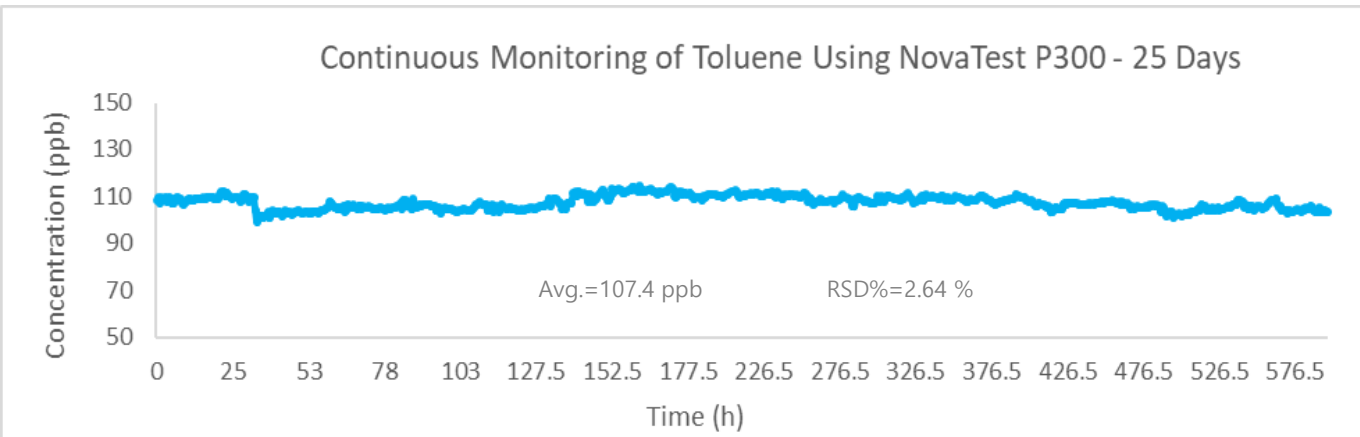
Environmental Control System

New housing is designed to be more dust-proof and water-proof. It can be stored in a rainy or dusty environment without negatively impacting the results.

CLEAR RESULTS FOR BETTER UNDERSTANDING

The NovaTest P300 adopts the concepts of microflow and the design of MEMS, greatly shortening the analysis time from that of the traditional GC. It is able to continuously analyze VOC mixtures with customer-set frequencies. The following results are from the continuous tests of Toluene for 30 hours and 25 days with sampling and analysis at 30-minute intervals.





IMAGINE LIMITLESS POSSIBILITIES

Encounter the P300 in a variety of applications in the future.

The P300 uses a photoionization detector (PID) and has a detection limit of sub-ppb level (benzene). It's ideal for field tests in diverse applications & locations:

- Environmental air monitoring
- Petroleum chemical plants
- Oil refinery plants
- Vehicle emission detection
- Food processing & manufacturing
- Chemical production monitoring
- Pharmaceutical analysis
- Warehouse monitoring
- Safety & security inspection
- Accident research
- Military research & inspection
- Academic research

AVAILABLE METHODS

The P300 includes a series of built-in methods with which users can run tests with minimum operations.

TCE/PCE

Trichloroethylene, Perchloroethylene

Vehicle Indoor

Benzene, Ethylbenzene, Styrene, Toluene, Xylenes

Pollution Source

Trans-1,2-Dichloroethylene, cis-1,2-Dichloroethylene, Benzene, Trichloroethylene, Toluene, Tetrachloroethylene, Chlorobenzene, Ethylbenzene, m, p-Xylene, o-Xylene, Styrene, Isopropyl benzene, 1,4-Dichlorobenzene, 1,2-Dichlorobenzene

BTEX

Benzene, Toluene, Ethylbenzene, Xylenes

Air Quality

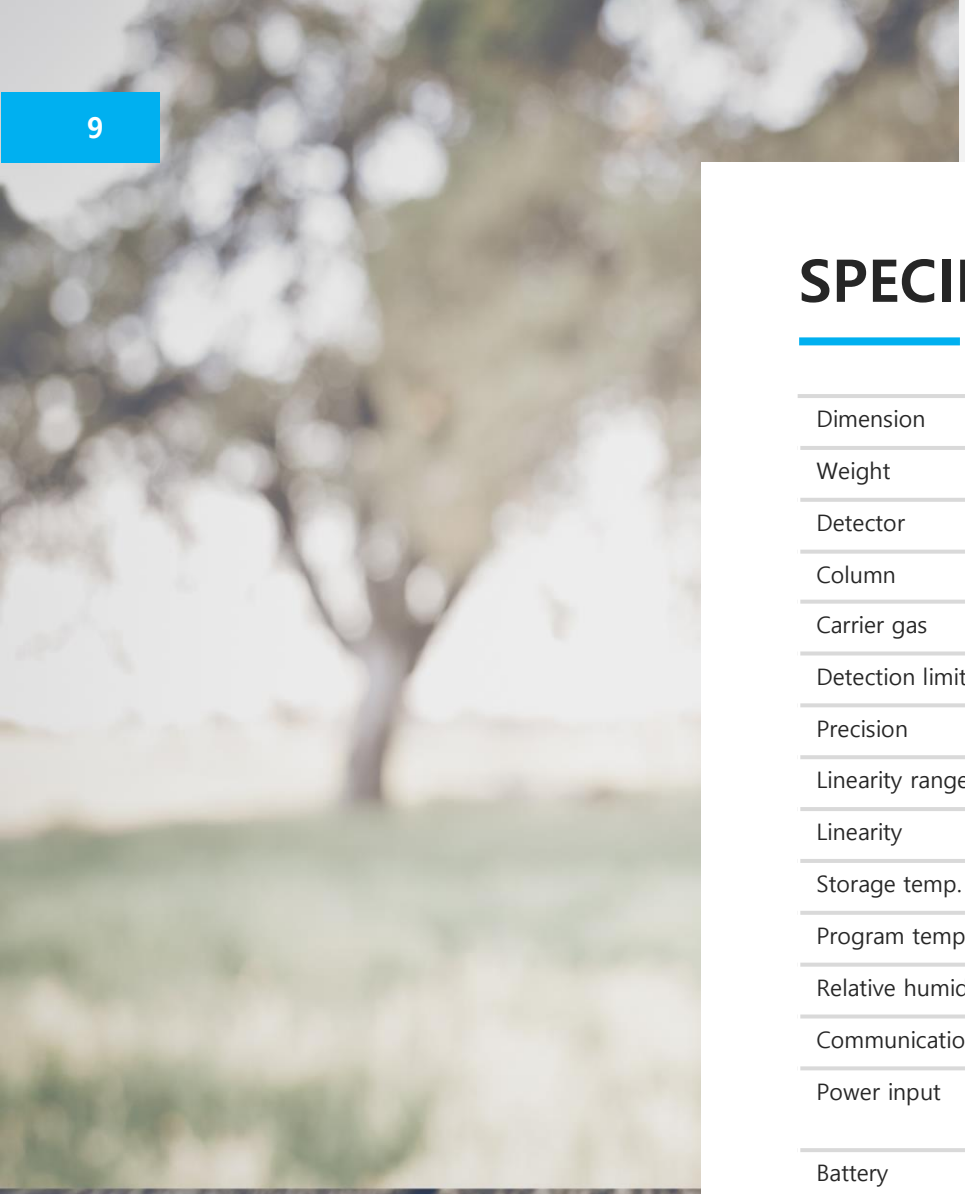
1,1-Dichloroethene, cis-1,2-Dichloroethene, Benzene, Trichloroethylene, cis-1,3-Dichloropropene, Toluene, trans-1,3-Dichloropropene, Tetrachloroethylene, 1,2-Dibromoethane, Chlorobenzene, Ethylbenzene, Xylenes, Styrene, 1,3,5-Trimethylbenzene, 1,2,4-Trimethylbenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,2-Dichlorobenzene

Water Quality

Trans-1,2-Dichloroethylene, cis-1,2-Dichloroethylene, Benzene, Trichloroethylene, Toluene, Tetrachloroethylene, Chlorobenzene, Ethylbenzene, Xylenes, Styrene, Isopropyl benzene, 1,4-Dichlorobenzene, 1,2-Dichlorobenzene

* Customization *

Contact us to customize a personalized method for your special applications!



SPECIFICATIONS

Dimension	22 x 14 x 9 in
Weight	22 lb.
Detector	10.6 eV PID (Default)
Column	Capillary column, 6 m (Default, customizable)
Carrier gas	Helium
Detection limit	1 ppb (Benzene)
Precision	± 25%
Linearity range	1 ppb – 1 ppm or 200 ppb – 200 ppm
Linearity	> 0.99
Storage temp.	5 – 40 °C
Program temp.	Column temp. to 200°C
Relative humidity	< 95% (Non-condensing)
Communication	USB
Power input	110 V – 240 V AC, 50 – 60 Hz, adapter provided
Battery	Li-ion polymer, > 4 h
Battery output	25.9 VDC
Patent	US9341604, WO2016179291

NANOVA ENVIRONMENTAL

Want to know who we are? Learn more about us!

We are a US company established in Columbia, Missouri and provide innovative technologies, products, and services to advance environmental monitoring and environmental protection. Our highly qualified teams are dedicated to developing innovations beyond industry standards and patented cutting-edge technology. We have been actively cooperating with renowned universities as well as many environmental organizations to promote innovative technologies and convenience to the world.

Our Team

Our research and development team consists of highly talented and educated engineers and scientists, the majority of whom hold MS and PhD degrees in Environmental Engineering, Chemical Engineering, Material Science, Electrical Engineering, Computer Science, etc. Our state-of-the-art technology is supported by researchers from notable universities such as University of Missouri, University of Michigan and Ohio State University. We are confident in our mission to provide the world with revolutionary products and services.

Our Mission

We are dedicated to continually improving our technology and products through rigorous research and development and to providing high-quality services beyond satisfactory. With the leading technology in environmental solutions, we aim to serve the globe with superior products and services. Our slogan is "Better life through innovation."

For more information about the device, please visit us at

www.nanovaenv.com

NANOVA™
Better Life Through Innovation

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