

A Compact GC For Rapid Analysis & Improved Understanding

NovaTest P100 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 good advantage of VOCs for occasions like production monitoring, security inspection, and scientific studies.



ACCESS TO A POWERFUL TOOL

You have the ability to get instant, accurate results for multiple VOCs with one simple test, at any location.

Quick, convenient, and accurate analysis is always desired in terms of gas detection and monitoring, but most products can't provide all of these features. With the rising demand of VOC monitoring, the ability to analyze multiple VOCs with minimal operations is becoming increasingly crucial. Therefore, it's a good idea to use a more powerful instrument, especially one that you can carry anywhere and that can provide you with accurate reports at any time.

NovaTest P100 is a revolutionary gas chromatography (GC) system developed based on the microfluidic concept. It is a very powerful tool that is able to meet all your requirements, but is just the size of a backpack and requires no professional experience to operate.

NovaTest P100

COMPACT GC

P100 is 36 x 30 x 15 cm, 7 kg, and is just the size of a backpack. It's easy to carry and use anywhere to enable fast, convenient, and on-site analysis.

P100 is very easy to operate thanks to its simple, user-friendly interface.

Built-in carrier gas cabin with mini disposable gas cylinder supports one week of analysis at regular settings. No need for traditional heavy carrier gas equipment.

No extra sampling equipment is required. The P100 samples the surrounding air directly to a built-in VOC trapping unit, minimizing the risk of sample loss.

Single calibration per method throughout a whole day saves time and energy for more tests.





P100 is controlled by a laptop or a tablet with USB connection.

The software analyzes the data stream quickly and accurately, generating an instant report.

The column and detector are modularly designed so that you can customize your own system for specific applications and never have to input complex parameters.

Suitable for a wide variety of working environments with more than 300 theoretically detectable compounds.

The detection limit reaches ppb level (benzene) and lower.

Minimum manual maintenance.



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2 Testing Modes

A user can run a quick test with a **Built-in Method** in which parameters are pre-programmed or run a traditional test with **Advanced Test** where all parameters are editable.



Multiple Gases With Built-In Parameters

P100 detects multiple compounds in one test with a PID and has preset programming parameters in the built-in methods, which are customizable for various compound combinations.



Unlimited Customized Methods

Users are welcome to customize their own method modules based on their specific applications.

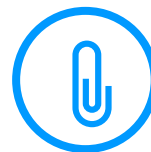
INTEGRATED SOFTWARE MAKES OPERATION EASY

The NovaSoft 1.0 user interface is simple, yet powerful.



5 Functions Are All You Need

The P100 allows a user to run a quick test with minimum parameter input, run a traditional test with every parameter editable, view test or calibration history, calibrate the system, and view the compounds' information.



Run A Test With Built-In Parameters

Under the 'Run Test' mode, the user will only need to input a test name and a sampling time to start a test, all the other parameters are preset. It takes less than 1 minute from arriving at a location to starting a test.



Instant Calculated Report

P100 generates an instant report after the test with retention times, FWHMs, peak heights, and peak areas. In the "Run Test" mode, which includes all the built-in methods, compound names and concentrations are also listed. The results of a test are easy to understand and interpret.

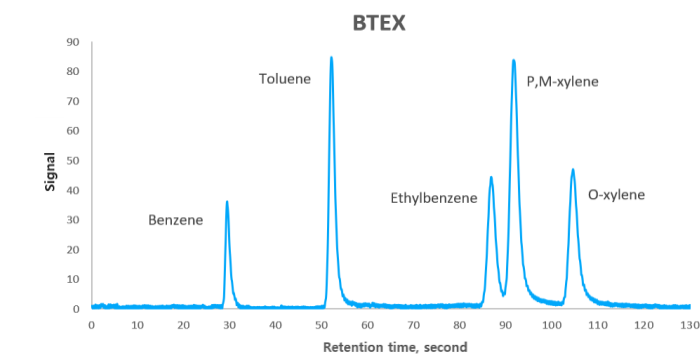


Auto Self-Clean

While you are viewing the instant report, the system runs a quick self-clean program so that you can run another test accurately without residues from the last test. This also reduces the need for manual maintenance.

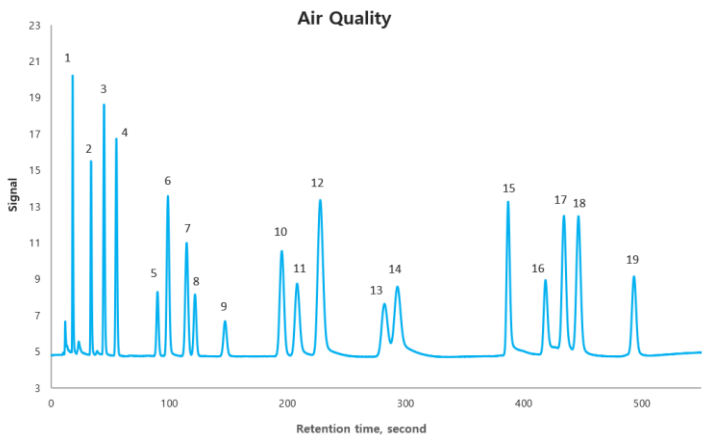
CLEAR RESULTS FOR BETTER UNDERSTANDING

The NovaTest P100 adopts the concepts of microflow and the MEMS design, greatly shortening the analysis time from that of the traditional GC. It is able to analyze VOC mixtures within minutes without sacrificing accuracy.



BTEX		
VOC	Retention Time (s)	Peak Width At Half Height
Benzene	29.47	<2s
Toluene	52.22	<3s
Ethylbenzene	86.98	<3s
p,m-Xylene	91.97	<4s
o-Xylene	104.73	<3s

Air Quality					
No.	Compound	% RSD N=5	No.	Compound	% RSD N=5
1	1,1-Dichloroethene	21.80	11	Ethylbenzene	1.48
2	cis-1,2-Dichloroethene	26.96	12	m,p-Xylene	1.46
3	Benzene	10.19	13	o-Xylene	1.39
4	Trichloroethylene	7.84	14	Styrene	1.58
5	cis-1,3-Dichloropropene	4.75	15	1,3,5-Trimethylbenzene	1.36
6	Toluene	1.46	16	1,2,4-Trimethylbenzene	0.83
7	trans-1,3-Dichloropropene	1.85	17	1,3-Dichlorobenzene	0.81
8	Tetrachloroethylene	4.69	18	1,4-Dichlorobenzene	1.25
9	1,2-Dibromoethane	2.85	19	1,2-Dichlorobenzene	18.38
10	Chlorobenzene	0.64			



P100 CAN DO MORE THAN YOU CAN IMAGINE

The P100 is designed not only for lab research and emission detection, but much more!

The P100 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
- Organic product manufacturing
- Food processing & manufacturing
- Chemical production monitoring
- Pharmaceutical analysis
- Warehouse monitoring
- Safety & security inspection
- Accident research
- Military research & inspection
- Academic research



AVAILABLE METHODS

The P100 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	36 x 30 x 15 cm
Weight	7 kg
Detector	10.6 eV PID
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 or > 8 h
Battery output	25.9 VDC
Patent	US9341604, WO2016179291



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

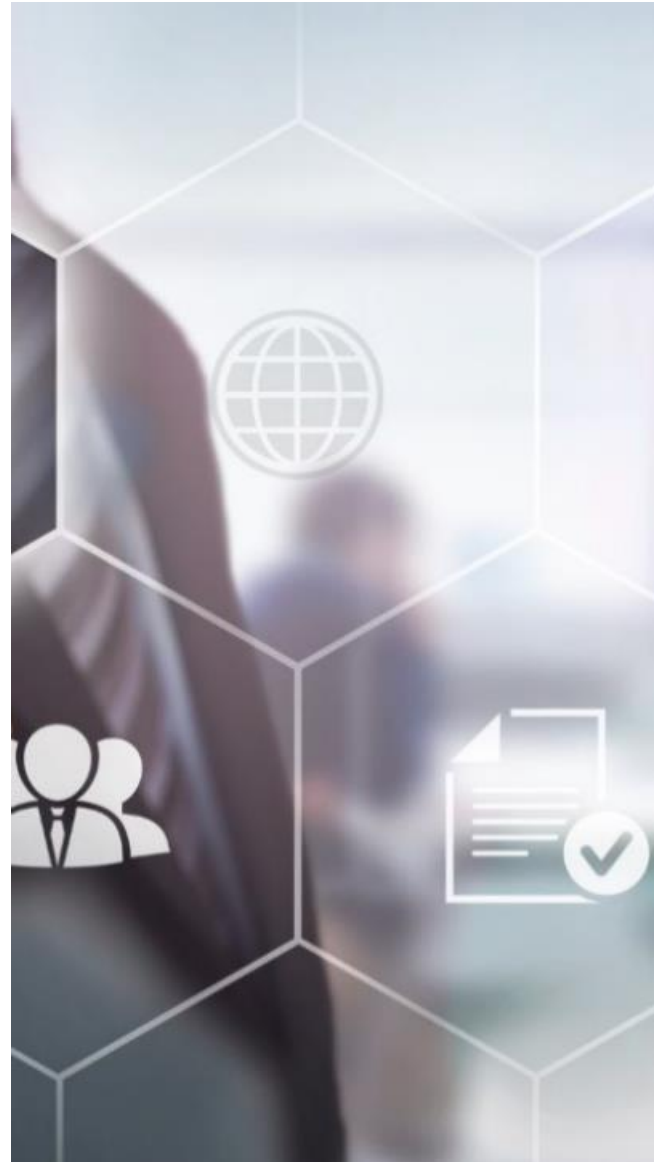
We are a US company established in Columbia, Missouri and provide innovative technologies, products, and services to advance environmental monitoring and environmental protection. Our highly qualified teams are dedicated to developing innovations beyond industry standards and patented cutting-edge technology. 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

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