

Portable Gas Chromatograph-Mass Spectrometer

ATM9200

Features

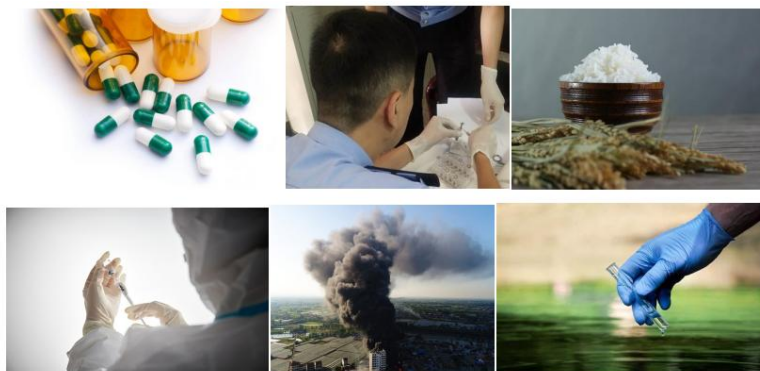
- Built-in industrial PC, One-click VOC analysis
- TIC, TIM, CWA , SVOC detection
- Wide mass range, Heated transfer line
- ppm-ppb detection, Sample loop compatible
- Thermal desorption compatible, Trace-level analysis
- Built-in compound library, Auto data matching
- Unknown compound ID, Custom library support
- Auto data analysis
- TIC, EIC display
- Background subtraction, Baseline correction
- 24h continuous operation, Gas probe, Liquid injector
- Headspace sampler, SPME module

Description

The ATM9200 portable GC-MS system enables rapid on-site detection of VOCs and SVOCs with high accuracy, featuring a lightweight design for backpack or vehicle deployment. It supports real-time mobile monitoring and pollution source analysis, applicable for atmospheric studies, groundwater testing, and soil remediation. Compact design, lightweight

Applications

1. Petrochemical industry: Online monitoring of reactants in facilities, monitoring and analyzing the emissions of volatile organic compounds in petrochemical processes, determining the distillation range distribution of molecular composition in production, online monitoring of residual gas, and pipeline leakage detection.
2. Fire protection application: Rapid detection of toxic, harmful, flammable and explosive gases at fire scenes; Monitoring of toxic and harmful gas leakage Assist in post-disaster investigation and evidence collection.
3. Public Safety: Indoor air quality testing, workplace air quality testing, occupational safety analysis.
4. Chemical defense military: Detection of chemical agents, biological agents, etc., such as sarin gas and mustard gas, can be applied to armored chemical defense reconnaissance vehicles.
5. Aerospace: Fuel leakage detection, such as hydrazine, unsymmetrical dimethylhydrazine, and dimethyl trap; Analysis of air quality inside the spacecraft cabin and monitoring of space environmental quality.
6. Environmental monitoring: Online detection of VOC/SVOC in the atmosphere, water, soil and solids at the environmental accident site, groundwater analysis, soil remediation
7. n, identification of oil spill sources, etc.



1. Parameter

Host:

- (1) Convenience of transportation: The integration of the instrument meets the requirements of emergency monitoring. The battery, carrier gas cylinder, internal standard gas, chromatography, mass spectrometry and vacuum system are all placed in the same chassis.
- (2) Rapidity of on-site commissioning and operation: The instrument can be debugged within 30 minutes after the emergency monitoring vehicle arrives at the site.
- (3) Seismic testing: The equipment can adapt to various harsh on-site environments and meet seismic requirements during on-site operation.
- (4) To facilitate on-site use, it can enter the analysis operation mode without quality tuning after startup, and it has both automatic and manual quality axis tuning functions.
- (5) Battery: Equipped with a single large-capacity battery, the continuous working time is ≥ 5 hours, and the weight is ≥ 2.5 kg
- (6) Preheating time: The equipment can be preheated quickly to deal with emergency monitoring of sudden accidents, with a preheating time of less than 6 minutes.
- (7) Carrier gas: Helium gas. A portable carrier gas cylinder integrated with the main unit in the same chassis. When connected to the main unit, it is equipped with a pressure reducing valve that can adjust the pressure of the carrier gas.
- (8) Overall machine weight (including battery, carrier gas, internal standard gas and vacuum system): ≤ 20 kg;
- (9) Quantitative repeatability (50nmol/mol 52VOCs full component, $n=6$) : ≤ 10.0
- (10) 24-hour concentration drift (50nmol/mol 52VOCs full component) : $\leq 10.0\%$

Gas chromatography module:

- (1) Sample Injection: The instrument is equipped with an adsorption tube and an inert quantitative loop. Gas samples can be injected through two modes: adsorption thermal desorption and quantitative loop. You can choose one of them for use.
- (2) The entire set of sample injection pipelines must undergo surface inertization treatment, featuring pre-pumping and back-blowing functions to ensure the instrument's anti-contamination capability and the accuracy of test results.

Mass spectrometry module :

- (1) Mass Analyzer: Ion trap.
- (2) Ionization mode: EI source ionization.
- (3) Detector: Electron multiplier.
- (4) Vacuum System: The vacuum system is designed to be oil-free and includes a turbomolecular pump and a diaphragm pump. The rotational speed of the turbomolecular pump is ≥ 1500 Hz. Within 5 minutes after startup, the vacuum degree should be able to reach 1×10^{-4} mbar or below.
- (5) Mass number range: 15-600amu, covering volatile organic compounds and semi-volatile organic compounds.
- (6) Self-cleaning capability of the mass spectrometry module: The maximum temperature of the

ion trap can reach 300°C.

(7) Mass resolution : ≤ 0.5 amu.

(8) Detection range :ppt-ppm.

Data processing system:

- (1) Fully Chinese software interface.
- (2) The simple and intuitive graphical operation interface and touch display screen bring convenience to on-site rapid detection.
- (3) The host is equipped with wireless transmission function, enabling wireless remote control.
- (4) It is equipped with functions such as data collection and analysis, qualitative and quantitative determination of samples, report production, real-time display, establishment of spectral libraries and retrieval. Automatically record and review all data during the sample analysis process.
- (5) Configure the GPS system and indicate the data source.
- (6) Databases: Built-in AMDIS deconvolution software, NIST spectral library, self-built library, environmental standard reference database and hazardous chemicals database.

2. Packing List

Item	Model	Qty.
Portable Gas Chromatograph-Mass Spectrometer (GC-MS) Main Unit , With Heated Sampling Probe & Adsorption Thermal Desorption Pre-treatment Module	ATM9200	1
Rapid Charger		1
Portable Outdoor Power Supply		1
Workstation Software, Data Processing Software		1
Tool kit		1
Mobile case (contains: main unit, 2 carrier gas cylinders, 1 internal standard gas cylinder, 1 wireless keyboard/mouse set, 1 fast charger)		1
Direct injection needle		1
Headspace sampler HS (optional)	Optional	1
SPME fiber assembly (optional)	Optional	1
Portable magnetic stirrer (optional)	Optional	1