NWSPEC (Xiongan) Co., Ltd.
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GC-MS 8000

Description

The GCMS 8000 is a next-generation gas chromatograph–mass spectrometer system designed by experts with over 30 years of GC–MS development experience. It delivers ultra-fast spectral acquisition (up to 20,000 amu/s), a broad mass range (1–1,200 amu), and exceptional sensitivity (IDL < 10 fg OFN), packaged within an intuitive, automated, and highly reliable platform.

Features

Ion Source & Tuning
High-performance dual-filament Electron Ionization (EI) source with optional Chemical Ionization (CI) or Direct Injection Probe (DIP)
Extended filament life achieved via optimized electron beam protocols
Robust tuning routines enhance sensitivity, reproducibility, and signal stability

Spectral Performance
Scan speed up to 20,000 amu/s, ideal for fast capillary separations
Mass range from 1–1,200 amu, supporting analysis of volatile to semi-volatile analytes
IDL < 10 fg (OFN) with S/N > 1,500:1 under SIM mode
Neutral particle deflection improves signal-to-noise ratio and sensitivity

Vacuum & Detector System
High-capacity turbo-molecular pump (standard 240 L/s; optional 300 L/s)
Multi-stage filtration and detection system achieves clean, stable vacuum and high throughput
Detector dynamic range: $\times 10^6$ with rapid response times

GC Pneumatics & Oven
Full electronic pneumatic control (EPC) with dual-column inlet handling
Pressure control accuracy: ±0.001 psi; resolution: 0.001 psi
Four operational modes: constant pressure, constant flow, pressure programming (5-step), and flow programming (5-step)
Oven: 14 L volume, temperature range from ambient +4 °C to 450 °C (with cryo trap options), 26 ramp steps, stability ±0.01 °C, max ramp rate 120 °C/min

Detectors (Up to 3)
FID: IDL 1.5 pg C/s; max temp 450 °C; linearity 10^7
TCD: IDL 2.5 ng/mL (std), 400 pg/mL (μTCD); max temp 400 °C
ECD: IDL 4 fg/s; max temp 400 °C; linearity $>10^4$
NPD: IDL <0.2 pg N/s (<0.02 pg P/s); max temp 400 °C; linearity $>10^4$
FPD: MDL ≤45 fg P/s; ≤2.5 pg S/s; max temp 300 °C

User Interface & Automation
5.7" tactile color LCD for system control
Clarity/AutoChro 3000 workstation with 21 CFR Part 11 compliance

Supports up to 4 GCs and 12 detectors on one software platform
User roles, audit trails, secure e-signatures, and qualification protocols

3. Technical Specifications

Specification	
Mass Range	1–1,200 amu
Mass Resolution	0.7 amu
Scan Speed	Up to 20,000 amu/s
Mass Stability	±0.1 amu over 48 h
Ion Source Energy	0–240 eV (adjustable)
Ion Source Temp	Max 350 °C
Transfer Line Temp	Max 400 °C
Turbo Pump	240 L/s standard; 300 L/s optional
S/N (SIM)	>1,500:1 (1 pg/µL OFN, 1 µL injection)
IDL (SIM)	<10 fg
Voltage / Power	220 V ±10%, 50/60 Hz; Max 900 W
Dimensions	Approx. 350 × 650 × 500 mm
Weight	~48 kg
Data Communication	LAN
Scan Modes	Full scan, SIM, Alternate scan
Operating Environment	Standard lab bench setup required