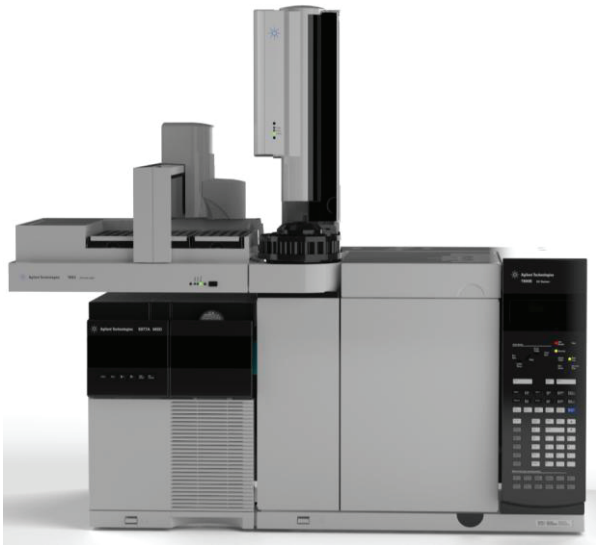
Agilent 5977A Series GC/MSD System

Data Sheet



GC/MSD

The Agilent 7890B/5977A Series Gas Chromatograph/Mass Selective Detector builds on a 45-year tradition of leadership in GC and MS technology. This advanced GC/MSD platform delivers a higher level of performance and productivity with:

- The industry's highest S/N and lowest IDL
- The power and flexibility of both Classic MSD ChemStation and new MassHunter Quantitative and Qualitative Analysis
- Eco-friendly features that save energy and time
- Integrated Intelligence to support methods development and system optimization
- Enhanced communication between the GC and MSD for more efficient and safer operation

Mass Selective Detector

EI source	Standard Inert or high sensitivity Extractor
CI source	PCI, NCI, and EI acquisition
Ion source temperature	150–350 °C
Quadrupole temperature	106–200 °C
Mass filter	Monolithic hyperbolic quadrupole
Mass range	1.6–1,050 u
Mass axis stability	Better than 0.10 u/48 h
Detector	Triple-Axis Detector with long life EM

Gas Chromatograph

Gas chromatograph	Agilent 7890B
Autosampler	Agilent 7693, 7650, CombiPAL, 7697 headspace and other third party autosamplers
Oven temperature	Ambient +4 – 450 °C Ambient +5 – 350 °C
Oven ramps/plateaus	7890B Supports 20 oven ramps with 21 plateaus. Negative ramps are allowed.
Retention-time locking	RTL-ready

Data System

Software	GC/MSD MassHunter Acquisition with both MassHunter and Classic ChemStation Data Analysis
Target Deconvolution	Integrated Deconvolution and Spectral Matching for identification and quantitation of low level targets in complex matrix.
Simultaneous signal acquisition	Simultaneous support of two MSDs and four GC detectors
SIM/Scan	Automated SIM setup and synchronous SIM/scan operation
Application autotunes	One-click autotune for BFB, DFTPP

Optional Libraries and Software Tools

Spectral libraries	NIST, Wiley/NIST, Maurer-Pfleger-Weber Drug
Retention Time Locked Databases	Pesticides and endocrine disrupter databases, volatiles, PCBs, toxicology, hazardous chemicals, indoor air toxics, Japan Positive List, forensic toxicology, environment semivolatiles, and several user contributed libraries
Accurate Mass	Cerno MassWorks, a post-acquisition software tool to achieve high mass accuracy on an Agilent GC/MSD
Multivariate analysis	Mass Profiler Professional

Physical Requirements with the Agilent 7890B

Dimensions (GC/MS)	88 cm (w), 56 cm (d), 50 cm (h) Additional space should be added for the auto injector, sample tray, data system and printer.
Weight (GC/MS)	81 to 96 kg (depending on configuration)

For More Information

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Installation Checkout Specifications

EI SIM IDL (Helium Carrier gas with Auto Liquid Sampler)	**10 fg or less** IDL for Extractor ion source, turbo molecular pump system **24 fg or less** for Inert EI source, turbo molecular pump system **30 fg or less** for Inert EI source, diffusion pump system IDL statistically derived at 99% confidence level from the area precision of eight sequential splitless injections of 100 fg OFN[1], monitoring *m/z* 272.
EI scan S/N (Helium carrier gas manual injection	**1500:1 or higher** S/N for Extractor ion source, turbo molecular pump system **600:1 or higher** for Inert EI Ion Source, turbo molecular pump system **300:1 or higher** for Inert EI Ion Source, diffusion pump system These numbers will be given by 1-µL injection of 1 pg/µL OFN standard scanning from 50 to 300 u at nominal 272.0 u ion.
PCI scan S/N (Methane)	**125:1** S/N will be given by 1-µL injection of 100-pg/µL BZP[2] standard scanning from 80 to 230 u at nominal 183 u ion
NCI scan S/N (Methane)	**600:1** S/N will be given by 2-µL injection of 100 fg/µL OFN standard scanning from 50 to 300 u at nominal 272 u ion
Mass Accuracy[3]	1 µL injection of a 100 pg/µL OFN standard scanning from 50-300 u will give its monoisotope at *m/z* 271.987 ± 0.005
Spectral Accuracy[3]	1-µL injection of a 100 pg/µL OFN standard scanning from 50-300 u will give 99.0% spectral accuracy

[1] Octafluoronaphthalene (OFN)

[2] Benzophenone (BZP)

[3] Only applicable with optional Accurate Mass software package. Scan mode only. Not verified during installation.

www.agilent.com/chem/5977A

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