

Gas Chromatography/
Mass Spectrometry

GCMS 2400™ System Gas Chromatograph-Mass Spectrometer

The PerkinElmer MS 2400™ SQ Detector is a single quadrupole mass spectrometer (MS) designed to be interfaced with the PerkinElmer GC 2400 System.

The PerkinElmer GCMS 2400 System features:

- Consistent, ultra-trace detection limits
- Full scan mass spectra, SIFI, and SIM modes
- Easy maintenance with SMARTsource Technology
- Sensitive and reliable Clarifi Detector
- Marathon Filament for ultimate robustness

The GCMS 2400 System is controlled by the PerkinElmer SimplicityChrom Chromatography Data System (CDS) Software. The following MS 2400 SQ Detector models are available:

- **MS 2400 SQ T Detector** – Compatible with the GC 2400 System, with Electron Ionization (EI) and 300 L/sec turbomolecular pump.
- **MS 2400 SQ C Detector** – Compatible with the GC 2400 System, with Electron Ionization (EI) and Chemical Ionization (CI) and 300 L/sec turbomolecular pump.

Sensitivity

MS 2400 SQ T Detector		
Test	Amount	Signal to Noise Performance
EI Full Scan	1 pg of octafluoronaphthalene	1500:1

MS 2400 SQ C Detector		
Test	Amount	Signal to Noise Performance
EI Full Scan	1 pg of octafluoronaphthalene	1500:1
Positive CI Full Scan	100 pg of benzophenone	1200:1
Negative CI Full Scan	1 pg of octafluoronaphthalene	10,000:1

Specifications

Hardware	
Ion Source	PerkinElmer SMARTsource™—Simplified Maintenance and Removal Technology (EI and CI compatible)
Filament	Marathon™ Filament – designed for long life
Mass Range	1.0 – 1,200 u (amu)
Detector	Clarifi™ Detector—long-life high sensitivity electron multiplier detector
Analyzer	Solid metal quadrupole with pre-filter
Mass Stability	± 0.1 m/z over 48 hours
EI Voltage	10 – 100 eV
Vacuum Pump	340 L/s (helium) air-cooled turbomolecular pump (300 L/s nitrogen, 280 L/s hydrogen pumping capacity)
Vacuum Gauge	Single wide-range gauge, atmosphere to 10 ⁻⁷ torr (standard on all models)
Pump-down Time	<3 minutes for air/water check, <90 minutes for quantitative stability
Temperature Settings	SMARTsource: Settable 50 °C – 350 °C, GC transfer line: Settable 50 °C – 350 °C
Carrier Gas Flow Rate	Maximum 5 mL/min helium
Mass Calibrant	PFTBA (FC-43) gas, triazine (high mass applications), user selectable
Field Upgrade	Positive/Negative chemical ionization
Performance	
MS Data Collection	Full Scan, Selected Ion Monitoring (SIM), Simultaneous Full-Scan Selected Ion Monitoring (SIFI)
Scan Rate	Fully variable up to 12,500 amu/sec
Acquisition Rate	100 points/sec (SIM)
Functions/Run	32 functions with up to 32 SIM ions per function

System Control

Software Control

GCMS 2400 System control is completely integrated in the PerkinElmer SimplicityChrom™ Chromatography Data System (CDS) Software.

Software	
Chromatography Data System Software	SimplicityChrom CDS Software designed for Windows 10 Enterprise LTSC operating system
GC Acquisition	Full control and data processing of a single GC/MS system with two additional detectors (FID and/or TCD Detector)
MS Tuning	AutoTune: Environmental Tune optimized for EPA methods; Sensitivity Tune with user definable optimization
Reporting	Included in all models with specialized reports for: Environmental, forensic, qualitative and quantitative applications.
Special libraries	NIST Mass Spectral Library, including AMDIS Deconvolution, Wiley Registry of Mass Spectral Data, Maurer/Pfleger/Weber Mass Spectral Library of Drugs, Poisons, Pesticides, Pollutants and Their Metabolites

Physical Details	
Power	120 VAC ± 10% @ 50/60 Hz ± 1% 1,000 VA, 230 VAC ± 10% @ 50/60 Hz ± 1% 1,000 VA
Temperature	10 °C – 30 °C
Relative Humidity	20 – 80 % non-condensing
Weight	MS 50KG (110 lbs) plus forepump 26Kg (57 lbs)
Dimensions (HxWxD)	MS 2400 SQ Detector: 48 CM X 31 CM X 65 CM GCMS 2400 System (with AS 2400 Liquid Sampler): 104.5 CM X 81 CM X 69 CM

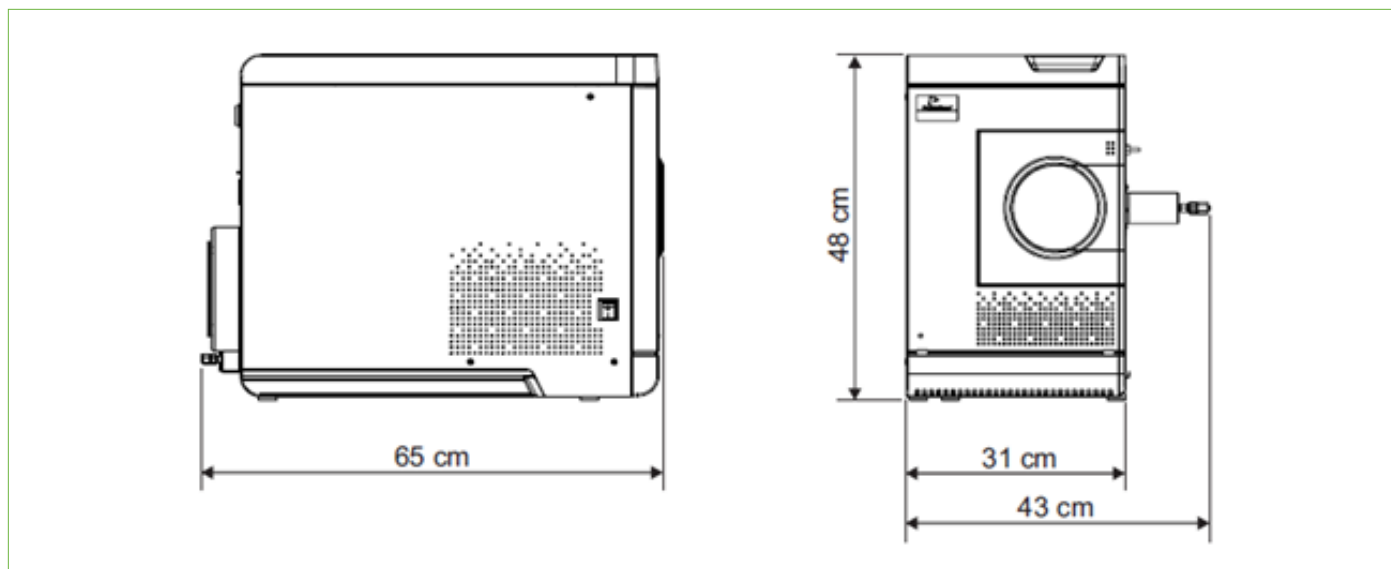


Figure 1: MS 2400 SQ Detector.

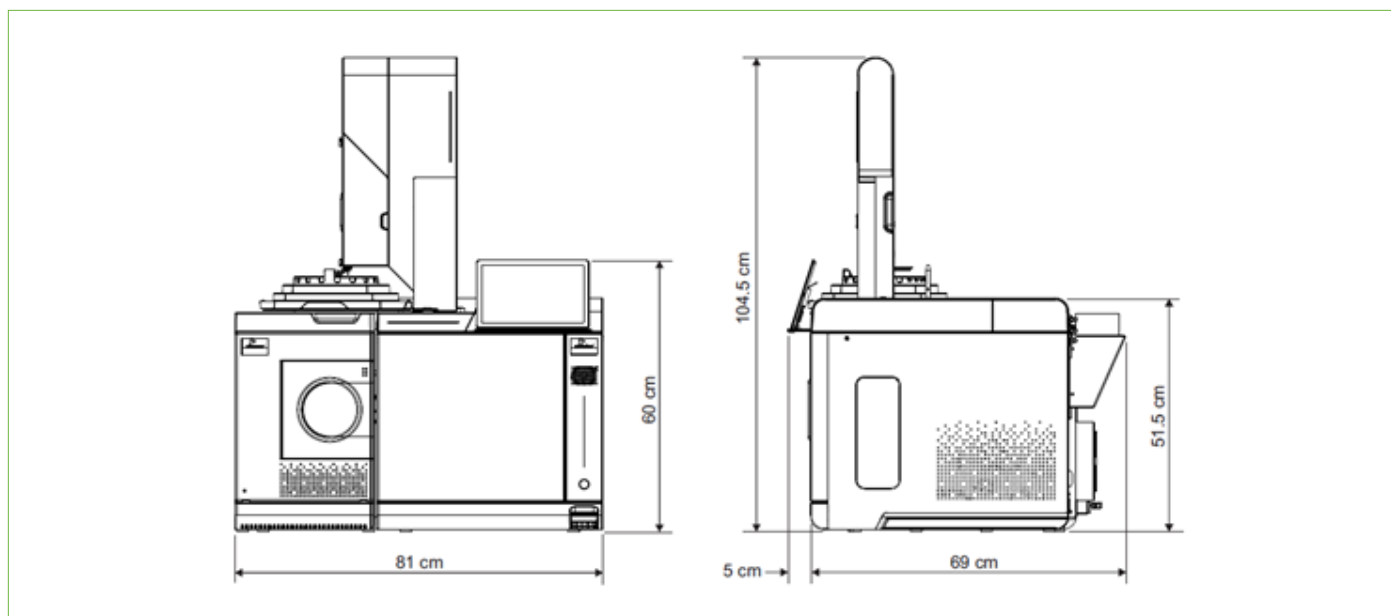


Figure 2: GCMS 2400 System.