

# Specification Sheet

## GCMS-QP2010 SE

Gas Chromatograph Mass Spectrometer



### The Leader in Laboratory Productivity

The Shimadzu single quadrupole GCMS-QP2010 SE offers reliable, cost effective productivity for the most challenging laboratory applications. The GCMS-QP2010 SE has the versatile functionality and robust, simple operation necessary for high-throughput production laboratories performing routine analyses. The GCMS-QP2010 SE is compatible with column flow rates up to 4 mL/minute (He), has pre-rods to reduce contamination of the mass filter, scan speeds up to 10,000 u/second, and includes three operation modes: scan, SIM, and scan/SIM. The ion source is equipped with an automatic-switching dual filament to minimize maintenance, and the acquired mass spectra can be searched against NIST, Wiley, and custom mass spectral libraries.

### Gas Chromatograph

Model	GC-2010 Plus
Oven Temperature	Ambient + 4 to 450 °C 230 VAC model has rapid heating rate compatible with fast GCMS

Injection Port Temperature	Ambient to 450 °C
AFC Pressure Range	0 to 970 kPa

### Mass Spectrometer

#### GCMS Interface

Type	Direct connection with capillary column
Temperature	50 to 350 °C

#### Ion Source

Type	Front access for easy maintenance
Ionization	EI
Temperature	140 to 260 °C
Filament	Dual, automatic switching
Electron Energy	10 to 200 eV
Emission Current	5 to 250 $\mu$ A

#### Vacuum System

Main Pump	Turbo molecular pump 58 L/second (He)
Fore Pump	Oil rotary pump, 30 L/minute (60 Hz)
Column Flow	4 mL/minute (He)

#### Mass Analyzer and Detector

Mass Analyzer	Metal quadrupole mass filter with pre-rods
Mass Range	$m/z$ 1.5 to 1000
Mass Resolution	0.5 to 2.0 u (FWHM)
High-speed Scan Control	ASSP™: Advanced Scanning speed Protocol
Scan Rate	10,000 u/second
Minimum Measurement Interval	0.01 sec Maximum of 100 scans/second
Detector	Secondary electron multiplier with patented Overdrive Lens and conversion dynode $8 \times 10^6$ dynamic range

#### DI Probe (Option)

Temperature	Room temperature to 500 °C
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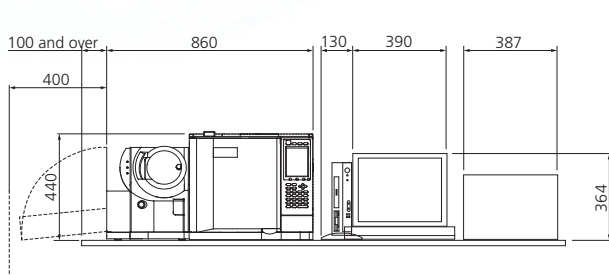
## Software

### GCMSSolution Version 4

Operation Modes	Scan, SIM, Scan/SIM
SIM Channels	64 channels × 128 groups
Method Wizards	COAST: Creation of Automatic SIM Table AART : Automatic Adjustment of Retention Time
Library Search	Similarity search, similarity search with retention index, index search
Tuning	Automated tuning for EI mode
MS Libraries (Option)	NIST, Wiley, Pesticide Library, Drug Library, FFNSC Library (Flavor and Fragrance), Metabolite Database
Report	Templates for all standard report formats. Fully editable for custom reports.
Insert Replacement	Easy sTop
Energy and Gas Saving	Ecology Mode
Maintenance	MSNAVIGATOR for guided maintenance operations

## Physical Requirements

Power	Frequency 50/60 Hz GC: 1800 VA (115 VAC), *2600 VA (230 VAC) *high-power oven MS: 1000 VA (100-230 VAC)
Environment	Constant temperature 18 to 28 °C Humidity 40 to 70% (no condensation)
Weight	GC-MS : 66 kg Rotary pump: 10 kg



## Demonstration of Performance

Demonstration of Performance can be confirmed at installation upon request.

### Helium carrier gas

EI Scan Sensitivity	1 pg OFN <i>m/z</i> 272	S/N ≥ 600:1
EI SIM Precision	100 fg OFN <i>m/z</i> 272, n = 8	RSD ≤ 8% IDL ≤ 24 fg

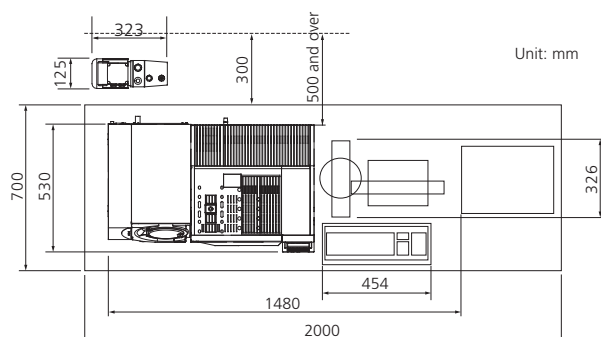
## Installation Checkout Criteria

The following values will be confirmed during installation and validation.

### Helium carrier gas

EI Scan Sensitivity	1 pg OFN <i>m/z</i> 272	S/N ≥ 200:1
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OFN: octafluoronaphthalene  
IDL : Instrument Detection Limit



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