

Gas Chromatograph Mass Spectrometer

# GCMS-QP2010 SE



# Enhanced Standard Gas Chromatograph Mass Spectrometer

## GCMS-QP2010 SE

Combining the easy operation of the GCMS-QP2010 Series  
with versatile functionality



### Simple operation

Easy maintenance reduces downtime



### Enhanced performance

Superior technology that achieves high sensitivity and stability



### Economy and Ecology

An ecology mode reduces energy consumption while waiting to start analyses





## Simple operation

The GCMS-QP2010 SE offers both the easy operation of the GCMS-QP2010 Series models as well as versatile functionality. It enables anyone to easily acquire highly reliable data and features user-friendly operation and easy maintenance.

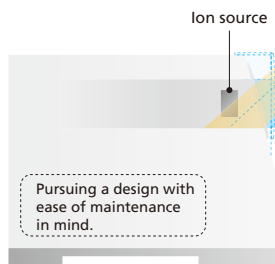
## Easy Maintenance Reduces Downtime

### Design Offers the Ultimate in Ease of Use

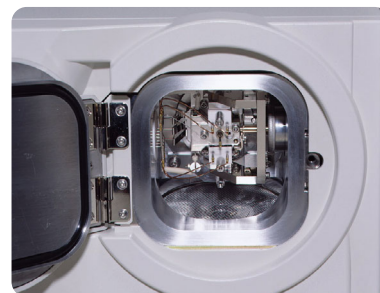
The GCMS-QP2010 SE incorporates a front-opening chamber in a design that is both visually pleasing and practical, allowing maintenance to be performed with ease from the front of the instrument. "MSNAVIGATOR," which supports maintenance, has been improved to help the user perform instrument maintenance.

**Common Consumables**

The same septa, vials, and other consumables are universally used across the QP2010 and QP5000 series systems.

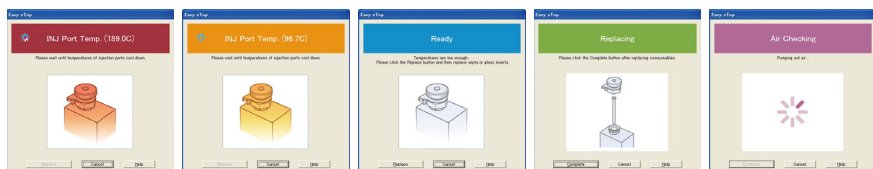
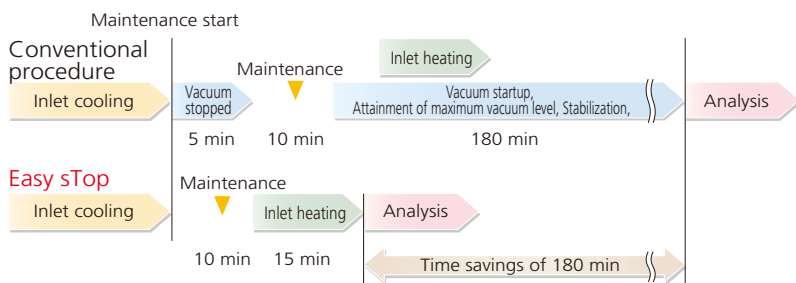


The line of sight of a flat architecture makes the filament difficult to see.



### Easy sTop for Major Reduction of Maintenance Time

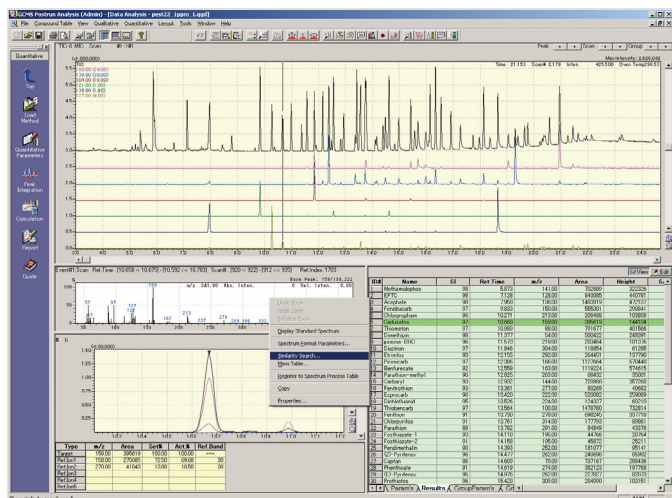
Many applications require that the injection port undergoes maintenance on a frequent basis. With the GCMS-QP2010 SE, maintenance is possible without venting the MS so downtime is minimized.



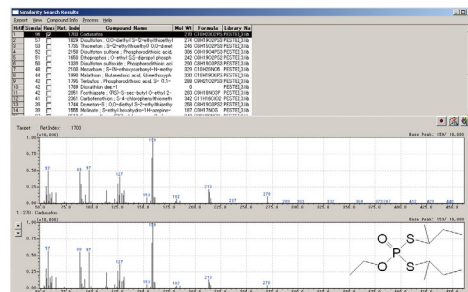
The Easy sTop navigator assists in taking the appropriate steps.

# Improve Efficiency with Simple Operations for both Sample and Data Analysis

GC/MS analyses require optimization of many operating parameters. Data analysis may require many calibrations to be performed, and many unknowns to be quantified with results reported. GCMSSolution workstation software combines ease of use with versatile functionality to effectively perform these tasks.



Libraries can be searched by simply right-clicking on mass spectra. Search results are automatically registered in the spectrum process table. Qualitative processing operations can be performed easily and efficiently as well.



## Retention Time Adjustment Function

The AART (Automatic Adjustment of Retention Time) function can estimate the retention times of target components from retention indices and the retention times of an alkane standard mix\*.

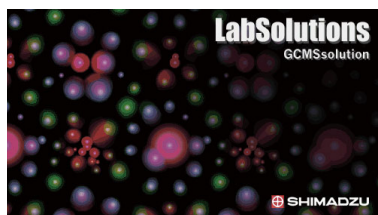
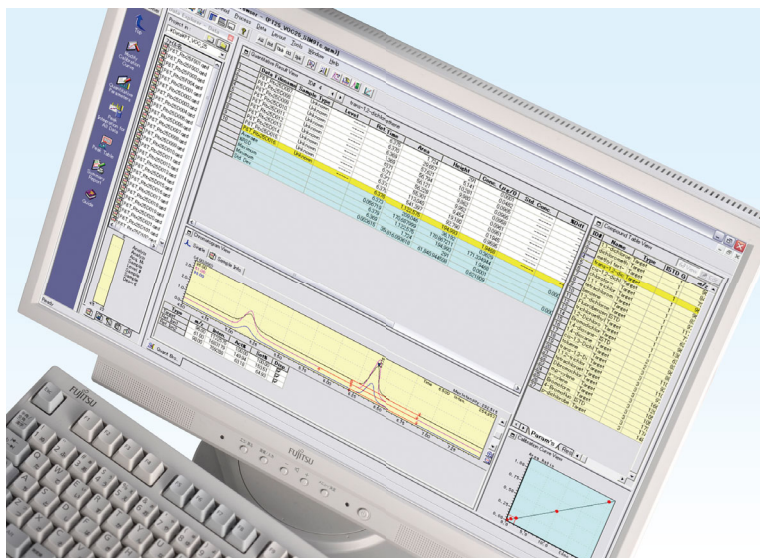
\* Requires alkane mix which is sold separately.

## Versatile Report Customization

The report format can be edited so that the items to be output can be pasted a blank report window in the desired positions and with the desired sizes. In addition, the [Solution] window can be copied and pasted into MS-Word or other documents.

# Quantitation Browser for Effective Quantitation

Browser is an off-line program allowing the user to perform statistical analyses and monitor quality control from batch runs or on multiple data files. Quickly apply modified method post-run processing parameters to previously run data and instantly see the new results.





# Enhanced performance, Economy and Ecology

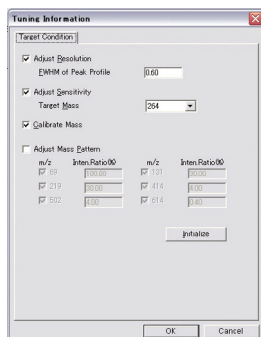
## Enhanced Standard Gas Chromatograph Mass Spectrometer

The GCMS-QP2010 SE is our enhanced standard GC-MS system, combining the benefits of economy with the simple operation and versatile functionality of the GCMS-QP2010 series.

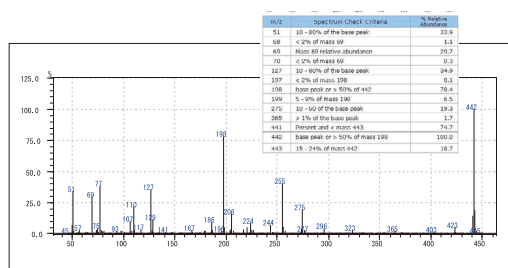
## Superior Technology Achieves High Sensitivity and Stability

### Stable Mass Spectra

The ion optics are optimized by employing a high-performance quadrupole mass filter and Shimadzu's proprietary Optdesign™ simulation program to provide high-quality mass spectra. Fully-automated MS tuning enables anyone to optimize parameters easily and consistently. This helps ensure that stable mass spectra can always be obtained.



### Mass Spectrum of DFTPP (Decafluorotriphenylphosphine)



### High-Performance Quadrupole Mass Filter

Shimadzu's patented technology for mass scanning produces ideal mass filter characteristics (Patent: US5227629).

This system features an easily removable pre-rod and lens system that allows the user to quickly perform cleaning and maintenance. Less downtime means greater productivity.

## GC-MS System Based on New Environmentally Friendly Concepts



Ecology mode software window

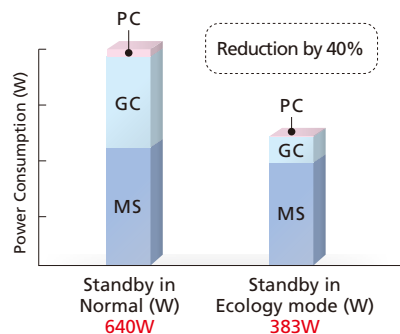
### An "Ecology mode" Saves Power Consumption and Reduces Instrument Running Costs

By activating the new Ecology mode feature whenever the system is in between analyses or after finishing a batch of analyses, the GCMS-QP2010 SE will use about 60 % less carrier gas and 40 % less power than previous models. Given typical operating conditions,\* this reduces helium gas consumption by about 2 cylinders (with a capacity of 7 m<sup>3</sup>) per year, reducing laboratory operating costs.

\* Using our standard analytical conditions.

### Reduction of Power Consumption in Standby Mode

When Ecology mode is entered, unnecessary power consumption by the GC, MS, and PC is automatically eliminated. The consumption of carrier gas is also automatically reduced. Furthermore, Ecology mode can be entered automatically after a batch run, allowing the lab to realize running cost savings on a nightly basis.



## Versatile System Configurations

The GCMS-QP2010 SE can be configured in multiple ways to meet an expanded range of applications.

### Headspace Analysis (Environmental, Food and Chemical Analysis)

The headspace sampling technique is used in a variety of industries, including foods and flavors, environmental and pharmaceutical. Any volatile target analyte that can be driven out of solution with heat and agitation into the headspace above a liquid is suitable for analysis by this technique. The GCMS-QP2010 series is the perfect platform for headspace analyses.

### Purge & Trap Analysis (Volatile Organic Compounds Analysis in Water)

The Purge and Trap sampling technique is used for concentrating volatile organic compounds from environmental matrices and then introducing the concentrated sample into the GC-MS for analysis. With its sensitivity and ruggedness, the GCMS-QP2010 series is an outstanding choice for environmental analyses.

### Thermal Desorption System TD-20 (Volatile Organic Compounds Analysis)



### AOC-5000 Plus Liquid and Headspace GC Injection System



AOC-5000 Plus is a GC sample introduction system that combines liquid, large volume and head-space injection as well as solid-phase microextraction (SPME) in one single instrument. This unique capability allows quick switching from one application to another on the same GC workstation.

### Pyrolysis System (Polymer Materials Analysis)



## Specifications

Mass range :  $m/z$  1.5 to 1000

Ionization mode : EI

EI scan sensitivity: 1 pg octafluoronaphthalene  $m/z$  272  $S/N > 200$  (Installation check out specs)

Column flow : Up to 4mL/min

Pump : Turbomolecular pump (58 L/sec for He), Rotary pump 30 L/min (60Hz)

The installation checkout specifications are per our designated conditions.



Company names, product/service names and logos used in this publication are trademarks and trade names of Shimadzu Corporation and its affiliates, whether or not they are used with trademark symbol "TM" or "®". Third-party trademarks and trade names may be used in this publication to refer to either the entities or their products/services. Shimadzu disclaims any proprietary interest in trademarks and trade names other than its own.

For Research Use Only. Not for use in diagnostic procedures.

The contents of this publication are provided to you "as is" without warranty of any kind, and are subject to change without notice. Shimadzu does not assume any responsibility or liability for any damage, whether direct or indirect, relating to the use of this publication.

SHIMADZU Corporation

[www.shimadzu.com/an/](http://www.shimadzu.com/an/)

© Shimadzu Corporation, 2012

Printed in Japan 3295-11109-50ANS