

# Press Release



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## GCMS-QP2050 quadrupole gas chromatograph mass spectrometer Saving time on measurement, operation & maintenance Compact efficiency amplification for environmental, chemical and food analyses

Shimadzu Europe GmbH – a thought leader in analytical instrumentation – announces the launch of the GCMS-QP2050 quadrupole gas chromatograph mass spectrometer (GC-MS). The GCMS-QP2050 delivers remarkably fast and sensitive measurements in a compact, easy-to-use and easy-to-maintain format.

Shimadzu's GCMS-QP2050 advances the state of the art in GC-MS. The internal structure has been enhanced, making the GCMS-QP2050 more resilient to the rigors of providing highly stable and reliable measurement data. Maintenance of the ion source – the component that ionizes complex samples – has been reduced by up to 95 % in comparison with conventional models. In addition, the efficiency of user operations has been increased by including functions such as remote control, time management to assess operating status and compatibility with optionally available automatic data analysis via Al algorithms.

#### The growing importance of GC-MS analyses

Gas chromatograph mass spectrometers investigate the type and amount of compounds in a sample by dividing the sample at the atomic and molecular levels. GC-MS systems are used in the examination of pesticides and other environmentally regulated substances as well as for the quality control and development of food and chemical products. In recent years, the growing popularity of these systems has made them essential equipment in both commercial and research labs. This means that increased speed, simplified maintenance and decreased downtime are more important than ever.

### **Reducing GC-MS downtime**

Shimadzu's GCMS-QP2050 is a direct response to the challenge of saving time when conducting numerous GC-MS measurements. For instance, it radically reduces downtime due to maintenance. This is because of the newly designed quadrupole rods it employs as well as the incorporation of simplified configurations that streamline many time-consuming and difficult tasks. The QP2050 Entry model is equipped with a compact and highly efficient turbopump engineered by Shimadzu (Infraserv GmbH<sup>\*</sup>) – the perfect solution for all your workflow! This turbopump delivers not only a stable vacuum but also ensures a fast restart of the mass spectrometer after maintenance. The GCMS-QP2050 also provides a number of time-saving user-support functions, such as the automatic



creation of the optimal analysis method and a real-time display of equipment start-up and measurement time. And – in addition to all of the efficiencies it offers – the GCMS-QP2050 is the smallest GC-MS device currently available.

#### **KEY FEATURES**

#### 1. Durable industry-leading sensitivity – better than ever

The sensitivity of the GCMS-QP2050 offers an increase of approximately 2.5 times over conventional models. That's because the design of the mass spectrometer has been completely updated. The interface for ionizing samples, ion sources, quadrupole rods and the detector have been refined. And the so-called pre-rods<sup>\*\*</sup> on the newly designed quadrupole rods prevent contamination by effectively transmitting only desired ions, thereby providing stable measurement results over extended periods.

#### 2. Simplified maintenance – less time-consuming

The GCMS-QP2050 provides a reduction in the maintenance frequency of up to 80 %. This is achieved by a new, long-lasting, contamination-resistant structure for the component (filament) that emits the electrons necessary for ionization of samples. The ion source consists of a number of parts, so previous procedures for periodic maintenance ended up being quite complicated. In the GCMS-QP2050, the structure of the ion source has been fundamentally simplified. Tasks formerly requiring approximately 25 minutes have been dramatically reduced to roughly 1 minute.



#### 3. Small, expandable, AI-compatible – streamlined flexibility

The width of the GCMS-QP2050 is 280 mm, making it the smallest such instrument on the market. In combination with the compact GC-2050, it has achieved a maximum width reduction of 27 % compared to conventional models. Numerous functions increase operational efficiency and ease of use. For example, the instrument can be accessed from remote locations via a LAN connection, allowing users to check status, control operations and view data – all without installing a separate computer in the laboratory. In addition, the workflow time-management function provides real-time visibility into completion times, even for long-term continuous analysis. And the GCMS-QP2050 is compatible with



Shimadzu's unique Peakintelligence software equipped with AI peak Integration algorithms, which quickly and accurately processes complex data – automatically.

#### Shimadzu knows the value of your time

The GCMS-QP2050 quadrupole gas chromatograph mass spectrometer is yet another product of Shimadzu's vigorous development of precision instruments that increase analytic precision and performance – while reducing the time, cost, complexity and environmental impact of the essential lab work at the heart of modern science and industry.

#### Web summary

Shimadzu announces the launch of the GCMS-QP2050 quadrupole gas chromatograph mass spectrometer (GC-MS). The GCMS-QP2050 delivers remarkably fast and sensitive measurements for environmental, chemical and food analyses. It also radically reduces downtime due to maintenance and provides a number of time-saving, user-friendly support functions. And – in addition to all of the efficiencies it offers – the GCMS-QP2050 is the smallest GC-MS device currently available.









Figure 3: GCMS-QP2050 quadrupole gas chromatograph mass spectrometer

\* Infraserv GmbH is a wholly owned subsidiary of Shimadzu Corporation, Japan (Hall B, Booth 258), <u>Company - Infraserv / Shimadzu (vakuumservice.de)</u>

\*\* This mechanism is installed at the quadrupole inlet to transmit ions originating from the source. The quadrupole is one of the mechanisms comprising the mass spectrometer. Switching the voltage allows users to selectively transmit the ions they wish to measure.

Web link: <u>www.shimadzu.eu/products/gas-chromatograph-mass-spectrometry/single-</u> <u>guadrupole-gc-ms/gcms-gp2050</u>

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For further editorial questions, please contact:

Marketing Communication Europe Shimadzu Europa GmbH Albert-Hahn-Str. 6–10 D-47269 Duisburg, Germany Tel.: +49 (0)203-7687410 Email: shimadzu@shimadzu.eu

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