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Press Release

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World premiere: GCMS-QP2010 Ultra
The highest performance in its class

Increased sensitivity at high scan speeds by over five times /
Analysis cycle dramatically reduced /
The first environmentally friendly GC-MS

Shimadzu, one of the worldwide leading manufacturers in analytical instrumentation, has launched a new GCMS-QP2010 Ultra gas chromatograph mass spectrometer (GC/MS) offering the highest performance in its class. It provides fast data measurement speed with five times higher sensitivity than previous models. In addition to improving laboratory productivity for high-speed analysis, it also offers improved applicability for comprehensive two-dimensional gas chromatography (GC×GC), which can achieve ultra high separation. It is also the first GC/MS system to have environmentally friendly features for saving power consumption and carrier gas.

The GCMS-QP-2010 quadrupole series have been presented at the 34th ISCC event (International Symposium on Capillary Chromatography) in Riva del Garda, Italy. In the same event, the world premiere of the new ChromSquare software took place, a software for Comprehensive Chromatography and providing of in-depth insights at any point in the process.

GC/MS systems are used to analyze trace components in a wide variety of fields, such as the environment, foods and chemicals

including quality control in food production and research & development of pharmaceutical products among others. Moreover, in recent years, the use of GC-MS systems has become more common not only in laboratories analyzing hazardous compounds in food and environment, but also in fields of human healthcare, safety and security such as metabolomics research for disease diagnostic markers and functional foods. Furthermore, there is an increasing need for GC-MS systems offer higher throughput and increased productivity to solve these problems. There has been significant interest from research centers and other laboratories in using GC×GC systems, which provide unprecedented separation levels when researching unknown samples. The GCMS-QP2010 Ultra satisfies all of these requirements.

The GCMS-QP2010 Ultra incorporates the new GC-2010 Plus setting new standards in speed, efficiency, precision, sensitivity and ease of operation. Featuring the specially designed AFT (Advanced Flow Technology), the GC-2010 Plus combines highest separation efficiency with increased productivity and reduced analysis time.

The GCMS-QP2010 Ultra's most important features

- **Significantly improved scan speed and sensitivity in Fast Analysis**

  A new technology in mass spectrometry has been developed increasing the scan speed of the GC-MS system. This patented technology, the Advanced Scanning Speed Protocol (ASSP), increases sensitivity at high scan speeds by over five times. This brings significant benefits to researchers processing metabolic compounds in food or biological samples for trace level analysis of unknown compounds by using fast GC method.

- **High-speed oven cooling for shorter analysis time**

  The combination of a high-speed GC method and high-speed "double jet cooling system" of the GC-2010 Plus dramatically

reduces the analysis cycle. For example, in the case of VOC (volatile organic compounds), analysis time can be reduced by more than half from 37 minutes to 17 minutes.

- **Twin line MS system eliminates the need to swap columns**
  The GCMS-QP2010 Ultra is capable of accepting simultaneous installation of two narrow-bore capillary columns into the MS. This allows users to switch applications without physically modifying the column installation. For example, regulated compounds such as pesticide and formaldehyde in drinking water need to be analyzed separately using different columns. By connecting two different columns to the MS system, it is possible to perform both analyses in a single instrument without changing the columns.

- **The first environmentally friendly GC-MS**
  The GCMS-QP2010 Ultra offers eco-friendly features reducing the power consumed in analysis standby mode by 36%. Use of Ecology mode over one year of operation can reduce power consumption by 26%. Furthermore, annual CO_2 emissions are cut by 30% and helium consumption being reduced by over 300 cylinders per year.

The new GCMS-QP2010 Ultra fulfills laboratory demands for enhanced productivity through various technologies which improve throughput, and helps to reduce operating costs while minimizing environmental impact with its Ecology mode. With the introduction of this product, Shimadzu aims to increase its market share of gas chromatograph mass spectrometers worldwide

Image 1: GCMS-QP2010 Ultra

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