

Press Release

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New: GC-2010 Plus Excellence plus

**Advanced Flow Technology increases efficiency /
Fast GC for trace-level analysis with high sample throughput /
Market-Leading detection sensitivity with redesigned suite of
detectors /
Appraised and awarded by expert jury and audience**

Shimadzu, one of the worldwide leading manufacturers in analytical instrumentation, presents its new *GC-2010 Plus*. The previous model *GC-2010* already set new standards with respect to speed, efficiency, precision, sensitivity and ease of operation. As the successor to this successful model, the *GC-2010 Plus* now features new aspects in High-End-Technology. Featuring the specially designed AFT (Advanced Flow Technology), the *GC-2010 Plus* combines highest separation efficiency with increased productivity and reduced analysis time.

The *GC-2010 Plus* has just been awarded the GIT Innovations Award 2010 in the category of 'Analytical instruments and software'. An independent jury had already nominated the *GC-2010 Plus* for the short list, and it was then up to the professional audience to cast their votes electronically as well as voting during Analytica 2010.

Continuous improvement of analytical methods

Analytical methods are improved continuously to ensure optimal consumer safety as well as environmental protection and continuous

increase in product quality. As the number of compounds to be controlled steadily increases, new ideas and new technologies must be applied to extend the separation efficiency in gas chromatography. In order to be prepared for future demands, using the latest GC technology has become a must for every laboratory.

All components of a GC system need to be integrated seamlessly. Improved carrier gas control, injection systems and column oven performance together with a family of new, best-in-class detectors engineered using the latest technology make the *GC-2010 Plus* well suited for highest requirements. The new features of the Advanced Flow Technology additionally boost the performance of the system.

Advanced Flow Technology – the lead in efficiency and productivity

Advanced Flow Technology is based on four systems to further enhance efficiency and productivity of a GC:

- In **Multidimensional GC (MDGC)** two capillary columns with different separation mechanisms are coupled. MDGC systems separate and quantitate compounds in difficult matrices e.g. petrochemical (e.g. oxygenates in petrol) or food samples (e.g. aroma compounds).
- When the target compounds have eluted from the column, the **back flush system** reduces analysis time by reversing the flow of the carrier gas and flushing high boiling point compounds back through the split vent.
- To transfer the effluent from the column to two different detectors (e.g. FID and EDC) the **detector splitting system** is applied. A mass spectrometer can also be used as second detector. In the **detector switching system** different detectors can be selected easily.

Free-of-charge Advanced Flow Technology Software controls all parts of the AFT in combination with GCsolution and GCMSsolution software.

***Fast GC* – The lead in sample throughput**

Compressing processes and saving time are important goals for an analytical laboratory. Total analysis time determines the sample throughput that can be achieved. *Fast GC* with narrow bore columns as well as the possibility to operate two analytical flow lines in one GC independently of each other decreases the total analysis time. Additionally, the *GC-2010 Plus* features an improved oven cooling using a double-jet cooling system to increase the dynamic heat flow to the environment.

Best detectors – The lead in detection

In food safety or in the detection of poisonous substances a lower threshold value often does not exist. Trace-level amounts, therefore, need to be detected unambiguously and with high precision. The *GC-2010 Plus* detects and identifies trace-level amounts through its new family of best-in-class detectors utilizing the latest technology (e.g. FID and FPD) with world-leading sensitivity.



Image 1: The new *GC-2010 Plus*



Image 2: Awarded the GIT Innovations Award 2010

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