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Press Release

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ICPMS-2040 series / ICPMS-2050 series

Eco-friendly efficiency and superior sensitivity

Streamlined high-precision measurement of inorganic elements – using less argon gas

Shimadzu Europa GmbH – a thought leader in analytical instrumentation – announces the launch of the ICPMS-2040 series and ICPMS-2050 series of inductively coupled plasma mass spectrometers (ICP-MS). Both the ICPMS-2040 (standard model) and ICPMS-2050 (enhanced model) are specifically designed for superior qualitative and quantitative analysis of inorganic elements and offer a wide range of applications for research and industry.

Shimadzu's ICPMS-2040 and ICPMS-2050 have approximately twice the sensitivity of conventional models while simultaneously reducing argon gas consumption by roughly one third. Both models also come fully equipped with a variety of easy-to-use workflow optimization functions and software. The result is an impressive reduction in measurement times, analytical costs and environmental loads.

Precise measurement of inorganic elements

Inorganic elements range from essential nutrients such as potassium and calcium to hazardous substances such as lead and cadmium. As even quite tiny amounts of these elements can affect product quality, highly sensitive measurements are required, whether for manufacturing and regulatory controls or for the research and development of foods, pharmaceuticals, cellular media or environmental testing.

An ICP-MS measures the mass by ionizing elements using high-temperature plasma* generated from argon gas. Using this high-sensitivity method results in exceptional analysis using extremely small amounts of sample elements.

* Argon plasma is a state of argon gas where it is ionized by adding energy, allowing it to interact with other elements for various scientific applications such as ICP-MS.

Advanced tools that do more with less

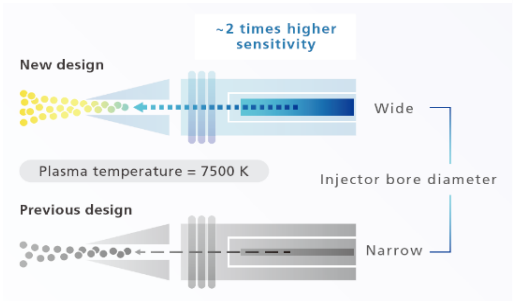
Shimadzu's ICPMS-2040 and ICPMS-2050 provide approximately twice the measuring sensitivity of conventional models through the use of the uniquely designed Mini-Torch System to generate plasma. The ICPMS-2050 achieves even greater sensitivity for specific elements through a special new mechanism for removing unnecessary ions. In addition, both models reduce argon gas consumption to approximately two thirds of the consumption of comparable instruments. They also provide for a more efficient workflow by

incorporating as standard a variety of functions to support users and minimize operator intervention.

KEY FEATURES

1. Significantly improved environmental performance – and high sensitivity

The newly designed plasma torch (Mini-Torch System) used in the ICPMS-2040 and ICPMS-2050 achieves high-sensitivity measurements while using only a small amount of argon gas. Consumption can be further reduced by operating in *eco mode* whenever data is not being acquired. The ICPMS-2050 is also equipped with a *reaction mode* which removes ions other than target ions by causing a reaction of hydrogen gas and other materials. This enables even greater sensitivity measurements of specific elements.



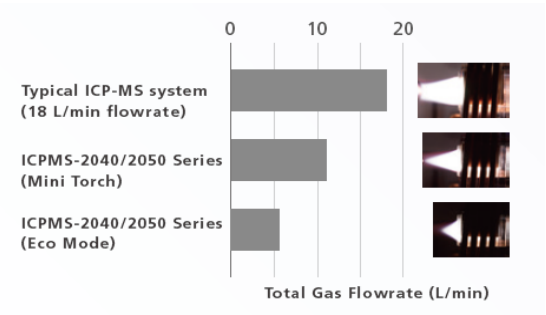


Figure 1 (left): Newly designed plasma torch
Figure 2 (right): Comparison of argon gas consumption

2. Significantly improved measurement efficiency – and reliable data

Conventional ICP-MS measurements can be time-consuming: to replace the gas used, to remove unnecessary ions and to rinse the instrument. The ICPMS-2040/2050 models shorten measurement times by incorporating a newly designed gas controller to replace gas quickly. In addition, by using the *ProActive Rinsing* function, the sample is measured while the sample-suctioning flow line is rinsed simultaneously. As a result, reliable data can be acquired efficiently even when over 100 samples are measured sequentially.

3. Pre-programmed settings for easy use – and immediate start

Shimadzu's ICPMS-2040/2050 models include – as standard – conditions for typical measurements and instrument settings for the pharmaceutical, environmental and food industries. This allows users to start analyses immediately after installation of the

instrument, with only minimal training. The instruments also come fully equipped with additional functions that simplify workflow operations, including an *extended rinsing* function for automatically adding and executing rinsing after high-concentration samples are measured.

Significantly improved labs – use Shimadzu!

The ICPMS-2040/2050 series models are the latest in Shimadzu's tireless development of precision instruments that increase analytic 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 ICPMS-2040 series and ICPMS-2050 series of inductively coupled plasma mass spectrometers (ICP-MS). Both offer approximately twice the sensitivity of conventional models while simultaneously reducing argon gas consumption by roughly one third and come fully equipped with a variety of easy-to-use workflow optimization functions and software. The result is an impressive reduction in measurement times, analytical costs and environmental loads.

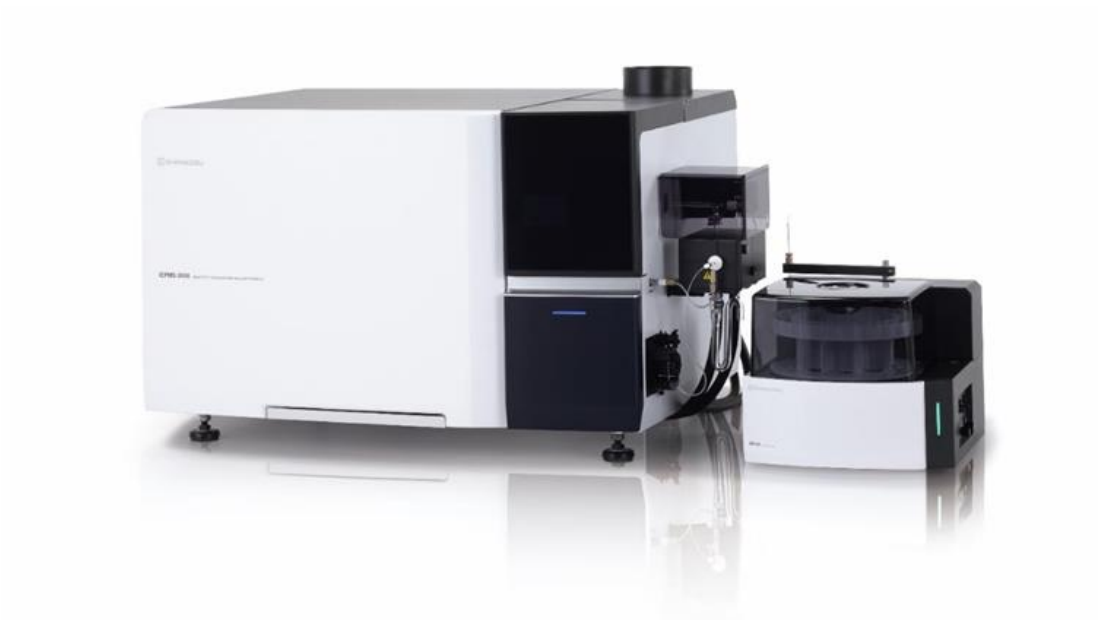


Figure 1: Inductively coupled plasma mass spectrometer ICPMS-2050 and AS-20 autosampler

Web link: www.shimadzu.eu/products/elemental-analysis/icp-ms/icpms-2040_2050

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