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# Press Release

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**Shimadzu Launches ALTRACE Energy Dispersive X-Ray Fluorescence Spectrometer**

## Improved Business Efficiency and Safety – particularly in the Food and Environmental Fields

Shimadzu Europa GmbH, a world leader in analytical instrumentation and testing equipment, has released the ALTRACE energy dispersive X-ray fluorescence spectrometer – the flagship model of Shimadzu energy dispersive X-ray fluorescence spectrometers (EDXRF). Its X-ray system and signal processing system have been completely redesigned, and it provides high-sensitivity measurements of trace inorganic elements. Up to 48 samples can be analyzed consecutively, improving the efficiency of operations involving the analysis of many samples. Shimadzu sells products for the inspection of chemicals, foods, cosmetics, and pharmaceutical related raw materials and recycled materials, as well as for contract analysis applications related to regulations for the environment and industrial waste.

EDXRF systems measure the type and amount of inorganic elements in measurement samples by irradiating them with X-rays. Samples can be measured just by placing them in the container, and laborious pretreatment is not required. For a wide range of samples from liquid to powders, EDXRF is faster and easier in comparison to other methods of measuring inorganic elements, and so it is used in a wide range of industries and application fields. In recent years, regulations have been strengthened with regard to toxic heavy metals in foods and drinking water, as well as in furniture, household electrical appliances, and toys. The demand for EDXRF has heightened with the aim of inspections during the manufacturing and shipment process. Users that are typically unfamiliar with analytical instruments are also increasingly asked to use them, so instruments that provide simple, high-sensitivity measurements are needed.

ALTRACE uses a high-output X-ray source, a new, high-efficiency detector, high-speed signal processing circuits, and a compact and highly efficient optical system. The detection lower limit has been improved for all elements in comparison to previous Shimadzu models, and the industry's highest level of measurement sensitivity has been achieved. This instrument provides space savings and high measurement efficiency due to its compact size and a tray storage capacity of up to 48 samples. With the ALTRACE, Shimadzu will contribute to heightening the efficiency of safety inspections for all types of products including foods, cosmetics, and pharmaceuticals, as well as environmental inspections.

**Features**

**1. Achieves Outstandingly High-Sensitivity Analysis**
The ALTRACE is equipped with an X-ray source that provides the industry's highest level of output, as well as a high-sensitivity detector, and high-speed signal processing circuits. Accordingly, it achieves a 0.1 ppm level detection lower limit, the industry's highest level of sensitivity for cadmium, lead, and other toxic heavy metals in organic compounds. In addition, it is equipped with a function to automatically switch between 8 X-ray filters that cut the X-rays specifically impeding target compounds, to enable even trace element measurements. Because of the high speed and high sensitivity, the time required to achieve target analytical accuracy is reduced by 1/3 in comparison to previous Shimadzu models.

**2. Automated Consecutive Analysis Heightens Laboratory Efficiency**
The new energy dispersive X-ray fluorescence spectrometer is capable of the automated consecutive analysis of up to 48 samples. It is suitable for use in inspection departments where many samples are measured. In addition, the ALTRACE is capable of interrupted measurement, in which the schedule of samples is paused, added to, or changed, thereby flexibly accommodating the ongoing situation in laboratories. During interrupted measurement, the sample tray, which is independent of the measurement unit, can be withdrawn or inserted, and user safety is ensured by avoiding contact with the drive unit.

**3. Simple Pretreatment and Small Enough for Tabletop Installation**
The ALTRACE can be used for a wide range of measurements from liquids to powders, and pellet-type solid samples, just by placing samples in a special sample container. Sample dissolution and other chemical pretreatments are not required. In addition, a 48-sample tray is built-in as standard within the 710 mm width of the instrument, enabling tabletop installation in labs where space is limited.

The ALTRACE Energy Dispersive X-Ray Fluorescence Spectrometer

PC Set with the ALTRACE Energy Dispersive X-Ray Fluorescence Spectrometer

**Web summary**

Shimadzu has introduced the ALTRACE, the new flagship model of Shimadzu's energy dispersive X-ray fluorescence spectrometers (EDXRF). Up to 48 samples can be analyzed consecutively, thereby significantly improving the efficiency of operations involving the analysis of many samples – particularly in the area of chemicals, foods, cosmetics, and pharmaceutical related raw materials and recycled materials. Furthermore, the ALTRACE is suited for contract analysis applications related to regulations for the environment and industrial waste. It is equipped with an X-ray source that provides the industry's highest level of output, as well as a high-sensitivity detector, and high-speed signal processing circuits.

Web link: www.shimadzu.eu/confident-metal-detection

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