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Press Release

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IRSpirit-X series Fourier transform infrared spectrophotometer

Compact sensitivity: New IRSpirit-X FTIR spectrophotometers

Optimal performance in a space-saving design – and a 10-year warranty

Shimadzu Europe GmbH – a thought leader in analytical instrumentation – announces the launch of the IRSpirit-X series of Fourier transform infrared (FTIR) spectrophotometers. The series is available in three variations: the IRSpirit-LX, IRSpirit-TX and IRSpirit-ZX.

All of these instruments provide the highest levels of sensitivity in their class and a compact, lightweight design. They are equipped with an analysis navigation program[1] to enable novice FTIR users to obtain data easily as well as a function[2] that judges the quality of the measurement results and proposes how to obtain the best data.

Optimizing FTIR performance

A Fourier transform infrared (FTIR) spectrophotometer is an analytical instrument that obtains information about an organic compound by detecting and computationally processing infrared light transmitted or reflected by a sample. This technique is used for sample identification and to estimate the amount and chemical structure of constituent components.
Results are quickly and easily obtained, making FTIR suitable for a wide and diverse range of applications, including identification tests in pharmaceutical manufacturing processes, measurements of microplastics and analysis of contaminants. In recent years, there have been calls for smaller, lighter and easier-to-operate FTIR systems that can still provide excellent basic performance.

Highest sensitivity

Shimadzu's IRSpirit-X series features three models that respond to that call, each of which is designed for different objectives and environments of use: the entry-level IRSpirit-LX, the IRSpirit-TX – with the highest sensitivity for a small[3] FTIR – and the IRSpirit-ZX, which is capable of stable measurements in high-temperature and high-humidity regions due to more moisture-resistant components. Excluding the initial consumables, all parts in this series of precision instruments are guaranteed for 10 years.

KEY FEATURES

Combines compact design with high performance

The IRSpirit-X series boasts the industry's highest sensitivity in an FTIR system this size. It weighs only 8.5 kg and takes up a surface space smaller than an A3 sheet of paper. Despite

[1] IR Pilot™ Analysis Navigation Program.
[2] Spectrum Advisor function (patent pending).
[3] The IRSpirit-TX FTIR is capable of being installed in an A3-sized space (297 mm × 420 mm) or less.

its compact size, the sample installation space is in accordance with industry standards and enables the use of optional attachments, either from Shimadzu or from other suppliers.

Includes enhanced task-support functions
Inexperienced users often find it challenging to accurately set conditions and judge the quality of the data. That's because many FTIR measurements are performed with optional attachments, and the measurement conditions must be set for each attachment. In addition, measurement data is sensitive to the effects of humidity and other conditions in the peripheral environment.

Three new support functions make high-quality data acquisition easier. First, the IRSpirit-X series comes equipped with a Spectrum Advisor function that supports the acquisition of high-quality data. The judgment of data quality is determined by comparing the measurement results with examples based on optimal measurement conditions.
Second, the IR Pilot Program further simplifies operations by automatically setting the optimal measurement conditions based on preset information about the attachment being used.
Third, the IRSpirit-X series can be simultaneously controlled with a Shimadzu energy-dispersive X-ray (EDX series) fluorescence spectrometer using a single PC. Using EDXIR-Analysis – a proprietary integrated-analysis program – FTIR measurement results from an organic compound can be combined with EDX results from an inorganic compound for more comprehensive data analysis, thereby improving the efficiency of tasks such as contaminant analysis.

Delivers better results in high-temperature or high-humidity environments
Every model in the IRSpirit-X series contains a beam splitter. In the IRSpirit-ZX model, the beam splitter consists of zinc selenide (ZnSe), making it more moisture-resistant than traditional beam splitters using potassium bromide (KBr). This gives IRSpirit-ZX users in high-temperature and high-humidity regions greater confidence in their results.

Shimadzu simplifies sensitivity
The IRSpirit-X series of Fourier transform infrared spectrophotometers provide an easier and more space-saving way to obtain highly reliable data. The IRSpirit-X series is the latest in Shimadzu's continuing 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
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enable novice FTIR users to obtain data easily as well as a function that judges the quality of the measurement results and proposes how to obtain the best data.

Figure 1: The new IRSpirit-X series FTIR spectrophotometer

Web link: www.shimadzu.eu/products/molecular-spectroscopy/ftir/ftir-spectroscopy/irspirit-x/index.html

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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