

Press-Release



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Portable FTIR spectrometer for in-situ non-destructive testing (NDT)

SphereOptics introduces the 4300 handheld FTIR from Agilent Technologies with the latest generation of portable FTIR spectrometers

Composites are being used more and more frequently and contamination is a big problem in production, especially in gluing. Most of the pollutants are hydrocarbons or are based on silicone. Since both classes of substance have a distinctive IR signature, which differs well from that of the background, the FTIR (Fourier Transform Infrared Spectrometer) spectroscopy is well suited. With Agilent Technologies' new 4300 handheld FTIR, the mobile test equipment can now be easily carried to the sample, instead of the other way around. Furthermore, in weathering chambers, to investigate the aging process of coatings and protective films, the 4300 handheld FTIR provides invaluable services. Apart from the industrial sector, the 4300 is a valuable research instrument, as it serves geologist and soils scientist for their mineralogical analyses in the field, without elaborate sample preparation. Furthermore, polymers, archaeological / anthropological artifacts or art objects can be measured and analyzed directly on site without damaging the samples. These advantages make the 4300 the ideal analysis tool for a wide range of test and test applications across all industries.

The 4300 handheld is the first portable FTIR to combine robustness and outstanding ergonomics with low weight and flexibility in one system. Its weight of around 2 kg makes it suitable for use outside the laboratory. Different measuring attachments (Diffuse Reflectance, External Reflectance, Grazing Angle, Diamond ATR, Ge ATR) allow an uncomplicated change between different sample types. These typically include IR-absorbing and IR-scattering samples, reflective metal surfaces with coatings, and powders, pellets, granules, soils, or minerals.

Thanks to the easy-to-handle hardware design and the user-friendly software MicroLab, even beginners do not have any problems with it. Experienced and novice users in this field will quickly become familiar with this mobile FTIR spectrometer. The powerful optics also enable measurements of difficult samples.

The spectrometer operates in the wavelength ranges 4500 to 650 cm⁻¹ (2222 - 15385 nm) with a spectral resolution of 4 to 16 cm⁻¹.