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Find the *Thermo / Nicolet 360 FT-IR* at our website: *Click HERE*

Avatar 360 E.S.P. FT-IR Spectrometer



The Avatar 360 E.S.P. spectrometer is a new low cost, entry level FT-IR spectrometer that offers a packaged solution for the entire FT-IR process, from receiving the sample to successfully communicating the results. It's ease of use and reliability make the Avatar ideal for both industrial and educational laboratories.

The Avatar spectrometer uses complete system integration, plug and play sampling and computer-based expertise to guide the user through all aspects of the sample analysis process with confidence. Nicolet's revolutionary E.S.P. (Enhanced Synchronization Protocol) technology provides the smart new features that enhance productivity and reduce the chance of user error, like accessory recognition and diagnostics, experiment set-up and system optimization as well as multi-media help and tutorials. In addition, the Avatar can be configured with the power and flexibility of the full OMNIC E.S.P. software for data collection and manipulation or with EZ OMNIC software for point and click operation.

Truly intelligent sampling is achieved when the system is used with Avatar Smart Accessories, a family of accessories that simply snap-in to customize and optimize the entire system for the measurement technique that best suits your sample type or problem.



Benefits

- Easy to use
- A small footprint - about the size of a typical PC!
- No alignment or tweaking
- Rugged design
- Fast accessory changes - snap-in installation and automatic accessory recognition
- Guaranteed performance - diagnostic checks monitor the status of the system and its components
- Built-in expertise - multi-media tutorials teach you how to use your system
- Data integrity - spectral quality checks examine your data and suggest improvements

To learn more about Avatar, click here.

Check back later for details on the Avatar 320 E.S.P. spectrometer!

Avatar Single-Bounce HATR



What is it used for?

The Avatar Single Bounce Horizontal Attenuated Total Reflectance (HATR) accessory is recommended for strongly absorbing samples especially when spectral subtraction is important for your analysis. It's horizontal sampling surface is ideally suited for obtaining high quality infrared spectra without the need for sample preparation. The short, single-reflection pathlength produces absorbance values that are ideal for samples like carbon filled polymers. High quality subtracted data can be readily searched against library databases.

Example Applications

Single Bounce ATR is commonly used for

- Strongly absorbing liquids
- Pastes and gels
- Soft polymers
- Rigid polymers
- tablets
- Thin films

Unique features

In addition to the many advantages of using an Avatar Smart Accessory, the Avatar Single Bounce HATR has these unique features:,br>

- **Horizontal sampling surface** - ideally suited for obtaining high quality infrared
- spectra-without the need for sample preparation.
- **Convenient storage spaces** - located within the cover of the accessory, which accommodate the accessory's sampling tools, such as a powder press and volatile liquid cover.
- **Pinned in place mounting** -allows you to change plates by simply lifting one off and snapping another in place.
- **Teflon(coating** -improves chemical resistivity and prevents discoloration of the sampling plates.
- **A pressure device** - ensures reproducible pressure and uniform optical contact between solid and powder samples and the crystal.

Avatar Multi-Bounce HATR



What is it used for?

Attenuated Total Reflectance (ATR) spectroscopy is a versatile and powerful technique for infrared sampling. It is ideal for rapid quantitative and qualitative analyses, since sample preparation is generally not necessary. Eliminating sample preparation not only reduces analysis time, but also reduces the risk of contamination when handling a sample. ATR also provides quick sample clean up - samples are placed on the ATR crystal for analysis and then the crystal is wiped clean ready for the next sample.

A typical ATR crystal has an effective pathlength of approximately 10 micrometers - less than is typically possible with transmission cells. In addition, ATR is well suited for providing information about the surface properties of a material since the analysis typically penetrates about 1 micron from the surface.

Example Applications

Multi-Bounce ATR is commonly used for

- liquids
- pastes and gels
- foams
- soft powders
- soft polymers
- thin films

Unique features

In addition to the many advantages of using an Avatar Smart Accessory, the Avatar Multi-Bounce HATR has these unique features:

- **Horizontal sampling surface** - ideally suited for obtaining high quality infrared spectra-without the need for sample preparation.
- **Convenient storage spaces** - located within the cover of the accessory which accommodate the accessory's sampling tools, such as a powder press and volatile liquid cover.
- **Pinned in place mounting** -allows you to change plates by simply lifting one off and snapping another in place.
- **Teflon(coating** -improves chemical resistivity and prevents discoloration of the sampling plates.
- **A pressure device** - ensures reproducible pressure and uniform optical contact between solid or powdered samples and the crystal.

Nicolet SpeculATR



What is it used for?

The Nicolet SpeculATR is a dual technique accessory combining a Single Bounce Horizontal Attenuated Total Reflectance (HATR) accessory with a 45 degree specular reflectance accessory. The SpeculATR is recommended for strongly absorbing samples especially when spectral subtraction is important for your analysis. Manufactured by Spectra-Tech, the SpeculATR comes with a choice of three different user changeable ATR crystal materials: zinc selenide, germanium, and silicon. The specular reflectance mode provides analysis via external reflection at a fixed 45 degree angle. Masks of either 7 or 13mm are available for the analysis of smaller samples.

Example Applications

Single Reflection ATR is useful for:

- Strongly absorbing liquids
- Pastes and gels
- Soft polymers
- Thin films

Specular Reflection is also useful for measuring thin films of greater than 1 micron, such as:

- Thin films on metals
- Resin coatings on metals
- Painted surfaces
- Polymer coatings on metals

Unique Features

In addition to the many advantages of using a Nicolet Smart Accessory, the SpeculATR has these unique features:

- Fresnel ATR crystals are very inexpensive to replace or to add additional crystal materials to the accessory – roughly 25% of the cost of traditional ATR prisms. Crystals can be exchanged or replaced quickly with a snap-in ring plate crystal design and an elegant lock mechanism.
- This implementation of ATR also features extremely high throughout for enhanced sensitivity and signal-to-noise performance. The horizontal sampling surface is ideally suited for obtaining high quality infrared spectra-without the need for sample preparation.
- The large crystal surface is ideal for high-sensitivity sampling of large surfaces or heterogeneous samples.
- Pinned in place mounting – allows you to change plates by simply lifting one off and snapping another in place.
- Pressure device – ensures reproducible pressure and uniform optical contact between solid and powder samples and the crystal.

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