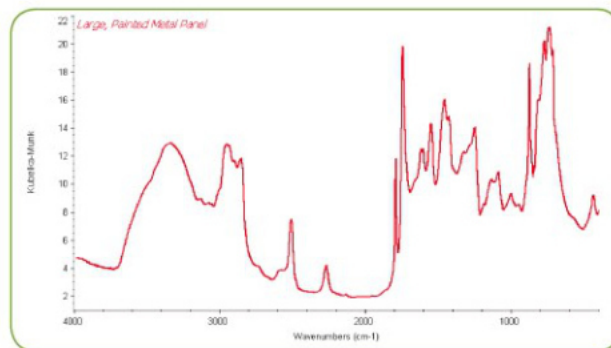


UpIR – Upward Looking Diffuse Reflectance Accessory



Analysis of a large painted metal panel using the UpIR accessory.

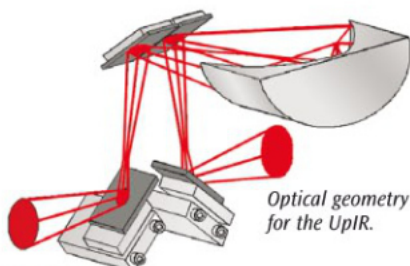
FEATURES

- Upward-looking optics provide fast and easy analysis of samples placed face down on the sample port
- Out-of-compartment design for analysis of large samples
- High optical throughput and exceptional signal-to-noise ratio
- Analysis of powders, ground solid samples and coatings on metallic surfaces
- Pre-aligned, fixed-position optical components for reproducible, high-quality data
- Micrometer-controlled sample stage positioning and focusing
- Optional gold-coated optics version for highest performance mid-IR and NIR applications

The UpIR is an innovative FTIR accessory developed to support a wide range of diffuse reflectance applications. To make measurements, simply place large, solid samples face down onto the top plate of the accessory. Powders can be placed into a suitable sampling cup at the top of the UpIR. A mask set is included for the analysis of small solids such as gems and precious stones.

This design is uniquely suitable for mid-IR analysis of coatings on metallic surfaces of large or small samples. For this application, analysis is rapid and easy because no sample preparation or cleanup is required. Since the sampling area of the UpIR is above the plane of the FTIR instrument, even large samples that do not fit into the sample compartment can be analyzed with this accessory.

The accessory is equipped with an upward-looking, high-performance ellipsoidal mirror. The sampling stage provides a sampling port with inserts for diffuse reflectance or specular reflectance measurements.



Optical geometry for the UpIR.

All mirrors, including the ellipsoidal collection mirror, are permanently mounted. The position of the sampling stage is controlled with an adjustable micrometer to achieve the best possible throughput. Spectral analysis involves collecting a background spectrum with the reference mirror in the sampling position. After this step, the sample is simply placed face down onto the sampling port and data collection is initiated.

The gold-coated optics version of the UpIR provides the highest throughput in the mid-IR spectral region and is recommended for NIR sampling. The UpIR accessory includes a solids sampling plate for flat samples, a ZnSe-windowed sampling cup for powders or small solids analysis and a 4-piece mask set (aperture diameters of 10, 7, 5 and 3 mm). The accessory is equipped with purge tubes for elimination of CO₂ and water interferences from infrared spectra.

For NIR sampling of solids, powders or tablets, the sapphire-windowed sampling cup is recommended. In the NIR spectral region samples can be analyzed while contained in a glass vial; the optional 21-mm glass vial holder is recommended.

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
044-10XX	UpIR – Out-of-Compartment Diffuse Reflectance Accessory Includes solids sampling insert and powders sampling insert with ZnSe window, mask set, gold mirror, purge tubes, purge kit and spectrometer baseplate
044-60XX	UpIR – Out-of-Compartment Diffuse Reflectance Accessory with Gold-Coated Optics Includes solids sampling insert and powders sampling insert with ZnSe window, mask set, gold mirror, purge tubes, purge kit and spectrometer baseplate

Note: Replace XX with your spectrometer's Instrument Code. [Click for List >](#)

UPIR OPTIONS

PART NUMBER	DESCRIPTION
044-3030	Solids Sampling Insert
044-3040	Powders Sampling Insert (order window separately)
044-3010	Glass Vial Holder, 21 mm
044-3020	Sample Vials with Threaded Caps, 21 mm x 70 mm (200 ea.)
044-3050	UpIR Mask Set, 3, 5, 7 and 10 mm
160-1155	Window, ZnSe, 25 x 2 mm
160-1307	Window, Ge, 25 x 2 mm
160-1201	Window, AMTIR, 25 x 2 mm
160-5000	Window, Sapphire, 25 x 2 mm
048-3000	Diffuse Gold Reference