

Mid-IR IntegratIR – Integrating Sphere



FEATURES OF THE MID-IR INTEGRATIR

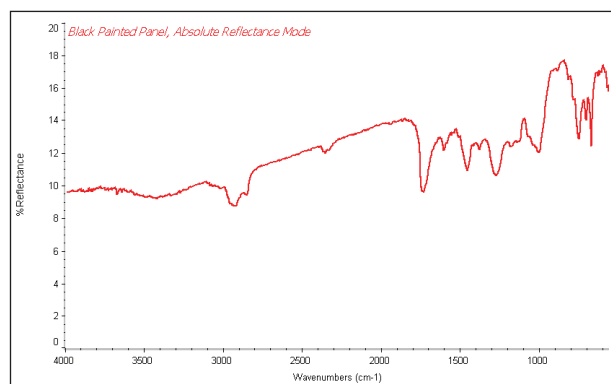
- 3 inch sphere – gold coated, Lambertian scatterer for high-performance measurements
- 8 degree hemispherical diffuse reflectance measurement collecting full reflectivity from the sample
- 18 mm horizontal reflectance sampling port, for easy sample placement and compatibility with larger and thick samples
- Diffuse transmission station for measurement of highly scattering samples in diffuse transmission mode
- Integrated, high-performance MCT detector configured to capture maximum integrating sphere signal
- In sample compartment design to minimize laboratory space requirements
- Configurations available for most FTIR spectrometers
- Spectral range to 550 cm^{-1} (please inquire about other options)

PIKE Technologies introduces the Mid-IR IntegratIR™, a new sample compartment accessory with a 3 inch diameter integrating sphere used for the measurement of absolute and relative diffuse reflectance. The Mid-IR IntegratIR features an 8 degree illumination of the sample with an optional specular exclusion optical path. Reflectance samples are placed directly onto the sample port of the upward-looking sphere or over a thin infrared transmitting window. Measurement of diffuse transmission may also be done by placing the sample at the slide mount beam input port.

For optimal performance the accessory includes an integrated and optimized wide spectral range mercuric cadmium telluride (MCT) detector. The accessory comes with built-in detector electronics and can be interfaced to most FTIR spectrometers. The selection of light illumination onto the sample or onto the reference surface is done via a flipper mirror mechanism accessed at the front of the accessory.

The Mid-IR IntegratIR reflectance port is 18 mm in diameter. The accessory can be operated directly with the sphere open, with no light loss – ideal for large, solid samples, or by using the standard ZnSe window – ideal for powdered samples. If preferred, a KBr window can also be used with the sample plate to minimize the reflection loss compared to the ZnSe window.

Diffuse transmittance of partially transmitting materials can also be measured by placing the sample at the transmission station accommodating a standard 2" x 3" sample holder.



Absolute reflectance spectrum of painted black panel measured using the PIKE Mid-IR IntegratIR.

The IntegratIR is purgeable by connecting the purge line to the front of the accessory, which is directly connected to the sphere assembly for the best purge efficiency.

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
048-10XX	Mid-Infrared IntegratIR Integrating Sphere Accessory (complete) Includes the sphere, purge enclosure and tubing, liquid nitrogen cooled, broad-band MCT detector and preamplifier electronics, one diffuse gold reference and sample plate with a ZnSe window.

Replacement Parts and Sampling Options

PART NUMBER	DESCRIPTION
048-0100	Sample Plate with 18 x 2 mm ZnSe Window
048-0200	Sample Plate with 18 x 2 mm KBr Window
048-3000	Diffuse Gold Reference

Notes: Please see the FTIR instrument code sheet.