

FTIR spectrometer (PerkinElmer Spectrum Two)



An FTIR spectrometer (Fourier Transform Infrared spectrometer) is an analytical instrument that measures how a sample absorbs infrared light to reveal its molecular composition and structure. It records an interferogram and uses a mathematical Fourier transform to produce an IR spectrum (absorbance or transmittance vs wavenumber, typically $4000\text{--}400\text{ cm}^{-1}$).

ATR accessory is also available, with the choice of diamond or germanium.

Overview:

- **Measurement types:** transmission, ATR (Attenuated Total Reflectance), specular reflectance
- **Sample accessories:** pellet/film slide (for films, solids, powders), ATR (for all kinds of samples except gases), fixed angle specular angle reflectance (for samples with shiny flat surface).
- **Scan ranges:** $8300\text{ to }350\text{ cm}^{-1}$ (transmission, diamond ATR), $5550\text{ to }560\text{ cm}^{-1}$ (germanium ATR).
- **Light source:** mid-IR
- **Detector:** temperature stabilised DTGS detector
- **Special feature:** software removal of CO_2 and water vapour peaks