

IROS P11 FT NIR spectrometer



The IR Fourier spectrometer IROS P11 is designed for quantitative and qualitative spectral NIR analysis. Main advantages:

- high data informative value;
- high measuring speed and accuracy;
- sample preliminary preparation is not required;
- special personnel training is not required.

IR absorption spectrum bands location and bands intensity give sample qualitative and quantitative (i.e. concentration and other properties) composition information respectively. The calibration model of relationship between absorption (transmission) index and component concentration (sample property) is preliminary calculated using calibration tests for samples with well-known spectra, component concentrations and other properties.

The main part of the IROS P11 spectrometer is Michelson-type interferometer with self-compensation and without the need for dynamic alignment.

Specification

Spectral range, cm^{-1}	3700–12500
Spectral resolution, cm^{-1}	2
Signal-to-noise ratio (measuring time 1 min, spectral range 4500-4600 cm^{-1} , spectral resolution 4 cm^{-1})	> 60 000
Min. time of full spectrum recording, s	< 1
Beamsplitter	CaF2 with multilayer Ge-based coating
Light source	Halogen lamp
Detectors	InGaAs photodetector; Si photodetector
Cell dimensions, mm	150x190x170
Overall system dimensions, mm	520x370x250
Weight, kg	28

The IR Fourier spectrometer IROS P11 uses NIR spectroscopy and chemometric system of results processing combination. This method is much-needed for such fields of industry as food production, drug manufacturing, perfumes and cosmetics production. Easy to use and high speed analysis and results objectivity make this mode essential for raw materials input quality control, manufacturing process critical points control and end products properties control. The method is recommended, in particular, for the counterfeit drugs detection.

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