

Portable FTIR gas analyzer

atmosFIRt is a high-resolution, transportable FTIR spectrometer from Protea LTD.

With a 19" rack form and a weight of 21 kg, it has applications within the laboratory as well as in field applications. The PAS software allows for advanced calibration, and a large library of spectral data is available.



Fourier-transform infrared spectroscopy is a versatile technique with application to a wide range of gases. The main limitation is homonuclear gases (e.g. H_2 , N_2 , O_2), which does not exhibit a signature in the IR spectral range.

Portable FTIR analyzer

The atmosFIRt is a high-performance spectrometer, fitted in a rugged casing. The gas cell has a path length of 4.2 meters and internal volume of 300 mL, resulting in excellent dynamic response. With a 24-bit ADC DTGS detector, instrument sensitivity is in the excellent ppb—low ppm range.

Feature list:

- 0.7 cm^{-1} resolution
- Typical response time of 120 seconds (T90)
- Built-in O_2 sensor
- Heated inlet filter

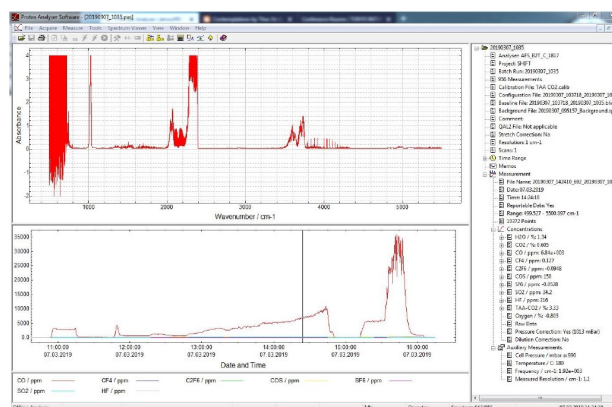
Accessories list includes various filter sampling probes and heat traced sampling lines of various lengths.

Hardware specification

Spectral range	485– 8500 cm^{-1}
Optics	ZnSe beam splitter
Detector	DTGS, 24-bit ADC
Path length, volume	4.2 m, 300 mL
Resolution (max.)	0.7 cm^{-1}
Weight	21 kg

Software

Protea's PAS software building allows for calibration model building using both CLS and PLS in addition to area based quantitation. Automatic baseline correction is also an option. Software provides quality control functionality for online monitoring. While aggregated concentration data is exported to text, spectral data can be imported into software like Matlab, R and python.



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