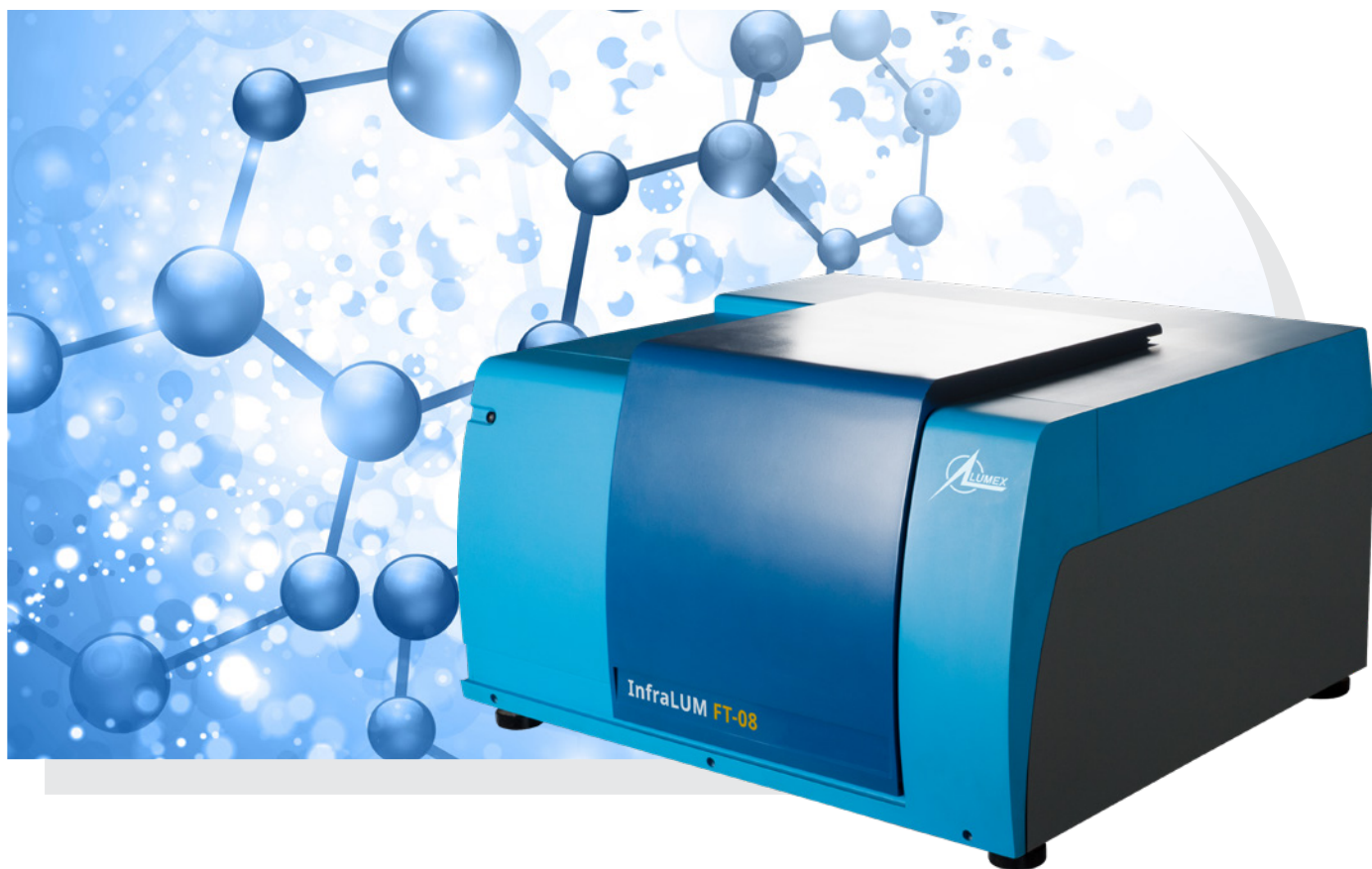


# FT mid-IR Spectrometer InfraLUM FT-08



- ✓ High signal-to-noise ratio
- ✓ Hermetically sealed optical compartment with the automated moisture monitoring system
- ✓ Enlarged cell compartment
- ✓ PIKE Technologies accessories
- ✓ Broad range of spectra databases

## FT mid-IR Spectrometer InfraLUM FT-08

The FT mid-IR spectrometer InfraLUM FT-08 has been designed basing on our extensive R&D and expertise in the IR spectroscopy. This multipurpose and easy-to-operate instrument provides a well suited option for various analytical laboratories. The high-quality misalignment-proof optics, high-resolution DLATGS detector, and a wide variety of accessories ensure the users' absolute confidence in the high accuracy of the measurement data.

### Distinctive features of the FT mid-IR Spectrometer InfraLUM FT-08

- ✓ **Patented Double Cat's Eye misalignment-proof interferometer**
- ✓ **Built-in smart total self-diagnostics system**
- ✓ **Hermetically sealed optical compartment with the automated moisture monitoring system**
- ✓ **Advanced radiation source with extended service life**
- ✓ **Intuitive comprehensible software**
- ✓ **Innovative ergonomic design of the spectrometer housing that provides best convenience for the operator**
- ✓ **Versatility in use**

The enlarged cell compartment enables the use of the whole range of measuring accessories, and the state-of-the-art software provides the capability of the design of dedicated measuring procedures for the users' specific applications. These advantageous features ensure coping with a wide variety of organic analysis problems using an InfraLUM FT-08 spectrometer.

- ✓ **Ease of use**

Possible installation of the spectrometer by the user, smart temperature and moisture sensors in the electronic and optical units, intuitive comprehensible and easy-to-operate software, automatic validation of the spectrometer as well as IQ/OQ protocols enable the user to carry out most of the technical manipulations in operation with InfraLUM FT-08 on his/her own.

- ✓ **The software versatility and efficiency** are provided due to the integrated calibration module, the capability of the design of customized measuring procedures for the users' specific applications. The software is easy to operate, logically designed and efficient; it allows for dedicated spectra libraries in the JCamp format to be plugged in and own user's libraries to be compiled. No special training and expertise are needed for the user to run the software.

- ✓ **Complete line of compatible PIKE Technologies optical FTIR accessories**

InfraLUM FT-08 along with PIKE Technologies accessories is a powerful and effective system which greatly facilitates both scientific research and routine analysis.

### PIKE Technologies Accessories for InfraLUM FT-08

- ✓ **Single and multiple ATR accessories**
- ✓ **Diffuse reflectance accessory**
- ✓ **Sample compartment microscope**

**ATR products** successfully replace constant path transmission cells and salt plates used for analyses of liquid and semi-liquid materials. Horizontal ATR can be used to analyze films, pastes, pliable solids, and fine powders. Thanks to the reproducible effective pathlength, it is well suited for both qualitative and quantitative applications.

#### MIRacle™ ATR accessory

The PIKE MIRacle™ is a universal single ATR sampling accessory for analysis of solids, liquids, pastes, gels, and intractable materials. The MIRacle™ ATR accessory is available with 5 different crystal types (ZnSe, Diamond, Ge, Si, and AMTIR) and with unique versions of these crystal materials.



#### Multiple reflection HATR accessory

Horizontal Attenuated Total Reflectance (HATR) accessory successfully replace constant path transmission cells, salt plates and KBr pellets used in the analysis of liquid, semi-liquid materials, and a number of solids.



### EasiDiff™ diffuse reflectance accessory

The PIKE Technologies EasiDiff™ is an economical, high quality diffuse reflectance accessory designed to analyze a wide variety of solid samples. It is most often used in the analysis of pharmaceuticals, illicit drugs, inorganic solids and minerals, and powdered chemicals.



### μMAX™ sample compartment microscope

The μMAX™ is an all new optical design for IR microanalysis, providing high performance sampling at low-cost with exceptional ease of use. The μMAX™ is the first sample compartment IR microscope capable of all microscope modes – transmission, reflection and ATR.



*More PIKE Technologies accessories are available for use with InfraLUM FT-08.*

*For more information on PIKE Technologies accessories, please visit [www.piketech.com](http://www.piketech.com) or contact LUMEX Instruments sales office.*

## Spectra databases

LUMEX provides software interface for a broad range of **FTIR** and **ATR-FTIR spectra** databases that are developed by S.T. Japan-Europe GmbH in cooperation with the Aldrich Chemical Company and the National Institute of Advanced Industrial Research in Japan.

### FTIR TRANSMISSION SPECTRA DATABASES

This is one of the largest and highest quality FTIR databases in the world. The data have been measured at the Japanese National Laboratories using various sample preparation methods: KBr, Liquid Film and Nujol mulls.

The quality of the spectra was continuously checked by expert spectroscopists. High purity samples were obtained from Japanese fine chemical producers and were cross-checked using NMR and MS instruments. Spectra libraries with resolution of 2 cm<sup>-1</sup> or 4 cm<sup>-1</sup> are available.

### ATR-FTIR SPECTRA DATABASES

All spectra were collected using samples of highest purity produced by the Aldrich Chemical Company and Japanese fine chemical manufacturers. Therefore, the spectra are taken of important, chemically significant compounds, which make the databases ideal for investigative analysis and quality control applications.

The complete collection comprises more than 32 000 ATR-FTIR spectra and is subdivided into dedicated databases meeting your individual application needs.

*For more information on FTIR Spectra Databases, please contact LUMEX Instruments sales office.*

## Application examples

- ✓ Scientific research
- ✓ Pharmaceutical industry
- ✓ Polymer materials testing
- ✓ Semiconductor materials testing
- ✓ Lubricants testing
- ✓ Oil products testing (benzene in gasoline, FAME in diesel fuel etc.)

## Performance characteristics and specifications

|                            |   |
|----------------------------|---|
| Spectral range             | 8000–350 cm <sup>-1</sup> (KBr optics)<br>8000–520 cm <sup>-1</sup> (ZnSe optics) |
| Wavenumber accuracy        | ±0.05 cm <sup>-1</sup>  |
| Variable resolution        | 16, 8, 4, 2, 1, 0.5 cm <sup>-1</sup>  |
| RMS signal-to-noise ratio  | > 40 000 (4 cm <sup>-1</sup> , 1 min, 2150±50 cm <sup>-1</sup> )                  |
| Stability of the 100% line | 0.2%  |
| Scanning speed             | 0.8 s/scan at 16 cm <sup>-1</sup> resolution                                      |
| Detector                   | High resolution DLATGS  |
| Beam splitter              | Ge-coated KBr (or ZnSe) in a hermetically sealed desiccated casing                |
| Interferometer             | Vibration- and misalignment-proof patented Double Cat's Eye Interferometer        |
| Radiation source           | High-intensity long-life stabilized ceramic IR radiation source                   |
| Power consumption          | 65 W  |
| Size                       | 580×550×340 mm  |
| Weight                     | 32 kg   |

## Equipment and options

- ✓ InfraLUM FT-08 FT mid-IR spectrometer
- ✓ SpectraLUM software package
- ✓ Set of measuring cells, accessories, spectra libraries (on Customer's request)

## Warranty

All Lumex instruments are covered by a twelve-month warranty.

## Services

Installation and commissioning of LUMEX instruments can be carried out at a customer site by our service engineers. Personnel training specific to customer needs can also be provided. Free delivery of spare parts and repair of are provided within the warranty period.

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