MFTNIR2010

Flexible FTNIR system:

Overtones

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Micro-Optik group Flokal BV

MFTNIR2010


START
STOP

MFTNIR2010 with improved polarizer interferometer

The performance of our new MFTNIR2010 NIR spectrophotometer is the result of many years of development in our NIR line of spectro-photometers

Due to its flexibility with separate modular hard and software building blocks, the instrument fulfills all of the criteria in the pharmaceutical as well as the food-, diary and chemical industry

All of our systems are thoroughly designed and tested for various applications. Our customers are used to easy operation and long term cost of ownership. Our systems find usage in harsh environments day in day out.

For every application our systems are very well thought through, until the vary smallest details.

Our company is more than an instrument builder. Our NIR solutions are state of the art and very practical.

In all our systems we combine the best available technology in the market and combine this with reliable software and excellent support. In addition to that our team of experts are at the customers service to follow up on all possible requests.

We are proud to have a proven track record on the reliability of our analytical technology and services.

The advantages of the MFTNIR2010

Robustness
Because of its rugged design, the MFTNIR2010 is less impact resistant then standard Michelson interferometers.

Modularity
The modular design, consisting of a spectrometer with different measuring options, allows separate configurations for various applications. MFTNIR2010 allows the exchange of accessories to be accomplished in a very short time.

Flexibility
Five separate measuring cells with more then ten different add-ons. MFTNIR2010 is by far the most flexible concept in the NIR spectroscopy.

Compactness
A highest performance is guaranteed with the lowest possible space, ideal for a laboratory with a lack of work-space.

Highly efficient
The NIR light source and HeNe laser can be exchanged by the user itself. As not highly specialized trainings are required, maintenance cost are therefore reduced considerably.

Reliable
By means of internal standard verification procedure the instrument is checking itself continuously. All data are stored in the Overtones™ database. The secure solution for the pharmaceutical industry.

Micro-Optik NIR Solutions
Global calibration procedures. Spectral libraries. Chemometrical software Overtones™ with unique calibration wizard, worldwide application support. You enter into the world of flawless integrated NIR solutions.

Vision in Technology

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Robustness and modularity in harsh environments

The NIR2010 was developed with different accessories. The accessories can be replaced very rapidly to adapt for specific applications. Every accessory has been carefully tuned for the specific requirement.

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MNIR FOP Solids
The MNIR Fiber Optic has been developed for rapid analysis of solid material. For example, powder, granules, solids, pasts and gels, as also liquids (with the help of the transflexions adapter). The handle of the probe with integrated remote control is equipped with two LED for the display of the status of the instrument. In combination with a barcode reader measurements can be processed in accordance to a IIMS system or any other logic administration.

Ideal for pharmaceutical and chemical industry

- For the analysis of material directly in the packaging without the need to open and hence contaminate the product
- With the help of a Transflection adapter can be used for liquid as well as pasts.

MNIR FOP Liquids
The robust design of the MNIR Fiber Optic liquids probe with the integrated remote control has been proven to be very useful in the quality control of liquid samples.
The probe can be mounted to the spectral bench and in no time high quality spectra can be recorded to acquired critical to quality parameters to determine whether the material is in specification. LED lights indicate the status of the measurements and can be tuned to show relevant status of quality. Likewise a barcode reading can be done to allow data to be stored in LIMS or any other electronic database.

Ideal for pharmaceutical and chemical industry

- For the analysis of liquid probes direct in original packaging, for example in raw material inspection.
- For the use in real harsh environment.

For use in laboratory……..

MNIR Solids
The MNIR Fiber Optic has been developed for rapid analysis of solid material. Examples are, meat, dairy products, powders pasts, yogurt, mayonnaise, gels, crèmes, etc. The measuring unit can be equipped with different sampling cells: Petri dishes, Autosampler for six vials, Auto sampler for tablets, and configurations for different probe mounting, for example a plastic bag

MNIR Liquids
With the MNIR liquid analyzer liquids and pasts in any form can be measured rather conveniently. In particular samples which are transparent can be measured, i.e. solvents, Soya sause, Oil. With the MNIR liquid analyzer is possible to measure qualitative as well as quantitative. Adaptations can be made for special requirements like elevated temperature measurements, carousel with vials and more.

MNIR Solids
With Petri dish add-on
- Ideal for Diary and food industry
- With the help of trans-flexion accessory can be used for liquid analysis
- For the measurement with standard Petri-dishes or high throughput sample bags

MNIR Solids
With Vial add-on

- Special useful for the pharmaceutical and chemical industry
- Auto-sampler with 6 positions
- Application of glas vials with diameter of 10 to 15mm

MNIR Solids
With tablet Add-on
- For measurement of tablets with diameter of 5 till 10mm in diffuse reflection
- Auto sampler with 10 positions

MNIR Solids
With XL-Add on

- Ideal for measurement of samples in packaging
- Powders can be measured directly while packed in a plastic bag.
- Special adapter for transflexion measurement. Cell for gels and closed sample cells for viscous liquids.

For use in laboratory.....

MNIR Solids Transmittance

The MNIR Solids transmittance is meant for easy, comfortable, transmission measurements of tablets or capsules.

The assembly of the MNIR Solids transmittance and its optimized detector guarantee best performance. MNIR solids transmittance utilizes a radiation source with low power. Through this way a heating of the sample is avoided and the analysis of the temperature sensitive sample can be carried out.

The extreme high photometrical range of the system, was is accounted as its best feature, allows the measurement of spectra with best possible spectra noise ratio for all sorts of samples. In addition the sample plates with special lamination are constructed in such a way that false light entry is avoided and hence an optimal spectrum of tablets can be recorded.

The stable sample cell with the fixed detector position, and the direct drive of the sample plate allows high reproducibility and a long uptime. The almost synonym with robust MNIR of Micro-optik facilitates a flawless transfer of calibration models from one system to the other. Therefore it is worthwhile and efficient to develop NIR models on our

Measuring methods .....

Transmission
This is the most ideal sampling technique. NIR light is transmitted through a defined light path of the solid or liquid. The transmitted light contains the spectral information

Diffuse Reflection
This method is especial useful for powder or granules or other diffuse reflecting powders, pasts or gels. The NIR light reflects on the sample and is collected to a detector.

Transflection
The NIR light is guided through the sample and is reflected such that it is guided once more through the sample. The accessory is easy to be configured for liquid sampling.

Diffuse Transmission
This technique is especially useful for inspection of tablets, capsules, powder and crèmes. The NIR light penetrates through the material and is diffusely scattered

Sample forms ……

Powder

Granules

Tablets, capsules

Liquid

Gels

Modularity ……

Petri dish

Add on

Petri dish

High performance cell

Add on

10 tablets

MNIR Solids

Add on

8 vials

Add on

XL with iris blend

Add on

Add on XL

Sample cup for viscous samples

Closed sample cub

Adapter palte for… liquid probes

Transflection accessory for

Fiber optics liquids

Fiber optics solid

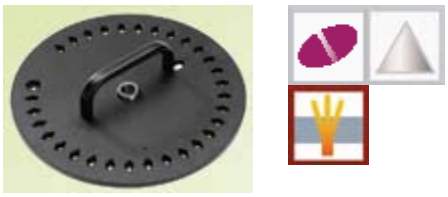
Transflection adapter

MNIR polarization interferometer

Liquids

Transmission cuvetter

Vial adapter



Sample plate 30 Tablets

Sample plate with 10 tablets

Sampleplate with 10 iris blends

Sample plate with 30 capsules