



# NIR analysis in 1 minute: cereals, oilseeds, feed, and feed raw materials

using InfraLUM FT-12 NIR analyzer

- Protein
- Moisture
- Gluten
- Vitreosity
- Fat/Oil content
- Fiber
- Ash
- Amino acids and many more

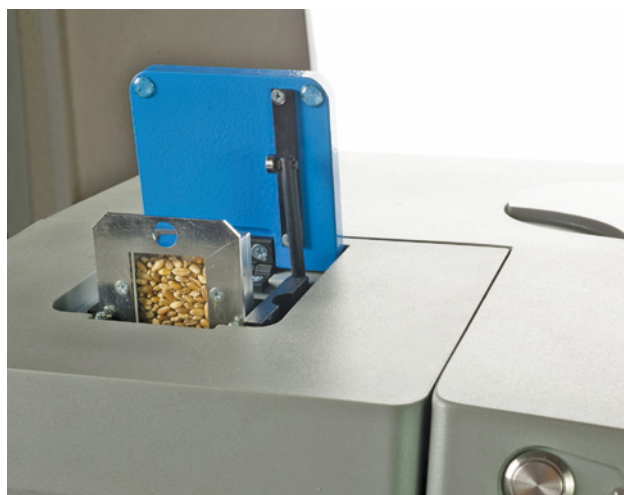
## FT-NIR Analyzer InfraLUM FT-12 – a universal solution for rapid analysis of bulk agricultural products

This versatile instrument designed for fast and accurate quantitative analysis of key parameters in cereals, oilseeds, feed raw materials, compound feed, flour, and more.

The InfraLUM FT-12 is perfectly suited for use at grain elevators, feed mills, flour mills, oilseed processing plants, and other agricultural enterprises.

The analyzer delivers high efficiency and reliability, making it ideal for quality control throughout the entire agricultural supply chain – from raw materials to final product.

### ANALYSIS STEPS



#	Property / constituent	Result	
1	Protein	12,8	%
2	Moisture	11,8	%
3	Gluten	20,2	%

1. Fill the sample cell, choose the analyzed product in the menu and start the measurement.

2. Result for all parameters obtained in 1 minute.

Easy-to-use sample cells simplify the analysis process. Cells of optical width ranging from 1-27mm make sample preparation quick and easy. Cells with small optical width (1-8 mm) feature a removable front cover with magnetic fastening for even easier cleaning. Dedicated funnels ensure convenient and accurate cell filling.

### ADVANTAGES

- Simultaneous determination of all parameters of interest within 1 minute.
- Analysis of most sample types with no milling or grinding.
- Highest measurement accuracy ensured by FTNIR spectrometry.
- No reagents or consumables required.
- SpectraLUM/PRO software complied with FDA 21 CFR part 11.
- Open calibration models (the possibility of extending existing calibrations).
- Capability of regional (corporate) networking with unified enterprise's calibrations.
- Easily extendable range of sample types and parameters of interest.
- No special requirements for personnel qualification.

### METHODS/CALIBRATION DATABASE

Lumex Instruments offers ready-to-use calibration models for nutritional values and safety parameters of food and agricultural products: wheat, barley, corn, rice, soy, rye, oilseeds, flour, bran, meal, etc.

Adaptation of basic calibration database to customer's specific samples and reference data is also possible. In such cases, the customer provides samples with corresponding chemical analysis data for refinement in situ/on-site.

## Main application examples

Product	Parameters
Grains, cereals, legumes, flour & processing products	
Peas *	Protein, Moisture
<b>Corn</b>	Protein, Moisture, Fat, Starch, Fiber, Amino Acids
Corn Flour	Moisture, Starch
Wheat Flour	Protein, Moisture, Gluten, Whiteness, Ash Content
Rye Flour	Moisture, Ash Content
Chickpeas	Protein, Moisture
Oats	Protein, Moisture, Fiber
Wheat Bran	Protein, Moisture, Ash Content
<b>Wheat</b>	Protein, Moisture, Gluten, Vitreosity, Fat, Fiber, Phosphorus, Starch, Amino Acids
Rice	Protein, Moisture, Amylose
Rye	Protein, Moisture, Fiber, Ash Content, Starch
Barley Malt	Protein, Moisture
Triticale	Protein, Moisture, Fiber
Lentils	Protein, Moisture
<b>Barley</b>	Protein, Moisture, Fiber
Feeds, mixed fodders & feed raw materials	
Nutrient stillage	Protein, Moisture, Fat, Ash, Fiber
Corn Gluten	Protein, Moisture, Fat, Fiber, Ash, Amino Acids
Feed Yeast	Protein, Moisture, Protein (according to Barnstein method)
Corn Cake	Protein, Moisture, Fat
Sunflower Cake	Protein, Moisture, Fat, Fiber, Ash
Rapeseed Cake	Protein, Moisture, Fat, Fiber
Soybean Cake	Protein, Moisture, Fat, Fiber, Amino Acids
Corn Germ	Protein, Moisture, Fat
Poultry Feed	Protein, Moisture, Fat, Fiber, Phosphorus, Ash, Amino Acids

Product	Parameters
Swine Feed	Protein, Moisture, Fat, Fiber, Phosphorus, Ash, Amino Acids
Cattle Feed	Protein, Moisture, Fat, Fiber, Phosphorus, Ash
Fish Feed	Protein, Moisture, Fat, Fiber, Ash
Meat and Bone Meal	Protein, Moisture, Fat, Ash, Phosphorus, Calcium, Amino Acids
Feather Meal	Protein, Moisture, Fat
Fish Meal	Protein, Moisture, Protein (according to Barnstein method), Non-Protein Nitrogen (NPN), Fat, Ash, Phosphorus, Calcium, Amino Acids
Soybean Flour	Protein, Moisture, Fat
Hay	Protein, Fat, Fiber, Ash, Carbohydrates, Phosphorus
Full-fat soybean meal	Protein, Moisture, Oil Content, Fiber, Ash, Urease Activity, Amino Acids
Sunflower Meal	Protein, Moisture, Fat, Fiber, Amino Acids
Rapeseed Meal	Protein, Moisture, Fat, Fiber
Soybean Meal	Protein, Moisture, Digestible Protein, Protein (according to Barnstein method), Oil Content, Fiber, Amino Acids
Cottonseed Meal	Moisture, Oil Content
Oilseeds, oils & processing products	
Flax	Oil Content, Moisture
Lupin	Fat, Protein, Moisture, Fiber, Amino Acids
Vegetable Oils	Phosphorus-Containing Substances, Moisture, Acid Value, Insoluble Impurities
Sunflower	Oil Content, Moisture, Protein, Oleic Acid
Rapeseed	Oil Content, Moisture, Protein
Safflower	Oil Content, Moisture
Soybean and its Processing Products	Oil Content, Moisture, Protein, Fiber, Amino Acids

\* The following amino acids are determined in the entire content range:

lysine, methionine, alanine, arginine, valine, histidine, glycine, isoleucine, leucine, proline, serine, threonine, tyrosine, phenylalanine.

## SPECIFICATIONS

Measuring time	1 min
Sample volume	3-60 ml
Spectral range	13200–8700 cm <sup>-1</sup> (760–1150 nm)
Resolution	8, 16, 32, 64 cm <sup>-1</sup>
Dimensions and weight	530×450×420 mm, 32 kg
Power supply	90-260 VAC (48-62 Hz), 110 W

## RECOMMENDED DELIVERY SET

- NIR analyzer InfraLUM FT-12
- Set of measuring cells and calibration databases (in accordance with a list of parameters of interest)
- Industrial computer with a touch screen or personal computer with Windows® OS, 2 free USB ports

## SERVICES

Installation and commissioning of Lumex Instruments' NIR analyzers can be carried out at a customer site by our service engineers or by certified distributor service engineers.

## WARRANTY

InfraLUM FT-12 analyzer is covered by a full 1-year warranty.



Find your local Lumex Instruments distributor:  
[www.lumexinstruments.com](http://www.lumexinstruments.com) | [sales@lumexinstruments.com](mailto:sales@lumexinstruments.com)

The information and specifications in this publication are subject to change without notice.

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