

Infratec™ 1241 Grain Analyser



Infratec™ 1241 whole grain analyser for automatic, fast and accurate analysis of grain and flour quality parameters.

Features and benefits

- Artificial Neural Network calibrations for unique performance
- High performance scanning spectroscopy for robustness and consistency
- Truly transferable calibrations reduces running costs
- Automatic multigrain cell saves time and eliminates human errors
- Independent of sample temperature for accuracy
- Capability for high moisture samples for a wide range of applications
- Datalogger / Datalink for easy transfer of results to LIMS
- Remote control for automated analysis

Infratec™ 1241 Grain Analyser

Infratec 1241 is a dedicated whole grain analyser using Near-Infrared transmittance technology to analyse a wide range of parameters (moisture, protein, oils, starch etc.) in an even wider range of commodities. The extended wavelength range of 570 - 1100 nm (standard since 2007) opens up possibilities for measurement of colour and colour-related parameters. The built-in multi-grain sample cell automatically adjusts pathlength to the corresponding application and eliminates the time, labour and risk of error otherwise related to manually adjusting pathlengths.

The analyser can be expanded with optional modules:

- Test Weigh Module for measurement of volume weight
- Sample Transport Module for liquids, moist samples and small sample volumes
- Flour Module for measuring on flour, semolina, soymeal and other ground samples.

Global standard for grain trading

Infratec 1241 is the solution for all steps in the agricultural chain, from crop management, grain trading, and grain processing to flour production. Analyse quality parameters such as protein, moisture, starch, oil, volume weight, colour etc. with high accuracy.

The Infratec 1241 Grain Analyser can be used as a stand-alone or as a networked unit via MOSAIC software. Transfer of data between instrument and LIMS systems as well as remote control of the unit is facilitated by Datalogger and Datalink software packages.

Applications and calibration techniques

Infratec analysers have become the most widely used system in grain quality control due to its performance, i.e. a combination of instrumentation and calibrations. FOSS' introduction of ANN (Artificial Neural Network) calibration technology has revolutionized grain testing by delivering simplicity of use in combination with unsurpassed accuracy. FOSS global ANN calibration models are today used by all major grain producing countries. The largest FOSS ANN model contains over 50.000 reference data sets, giving stable, transferable calibrations and accurate analytical results. Applications (ANN and PLS) are available covering a wide range of commodities and parameters. Contact FOSS to find out what the Infratec can do for you.

Optional Modules

Flour Module
 Test Weight Module
 Sample Transport Module

Support Software

Infratec™ File Tool, 1241
 WinISI™ 4, Calibration Development Software
 ODIN, Application Model Maker
 Infratec Scan Predictor
 Infratec DataLogger (included with instrument)
 FOSS DataLink
 MOSAIC internet network software
For support and administration of Infratec systems operated in networks, contact FOSS Analytical for further information.

Operation Data**Operating Programs**

Software: Menu driven
 Regression programs: ANN (Artificial Neural Network);
 PLS (Partial Least Squares)
 No. of sub-samples 1 - 20

Sample handling and result presentation

Analysis time: 40 seconds for 7 sub-samples
 50 seconds for 10 sub-samples
 Path length: Variable cell automatically controlled
 from 6 - 33 mm
 Result report: Presented on the display as default.
 Can be sent to PC/LIMS and the
 printer port
 Outlier function: Warnings and options for the presentation of the result

Technical data

Voltage: 220-240V 50-60Hz or 110-120V
 50-60Hz
 Rated current: 1.0A (110-120V) / 0.5A (220-240V)
 Dimensions: W × D × H – 500 × 570 × 400 mm
 Weight 30 kg
 Monochromator: Scanning
 Wavelength range: 570 - 1100 nm
 Optical bandwidth: 7 nm
 Number of data points/scan: 265
 Mode: Transmittance
 Light source: Tungsten halogen lamp
 Detector: Silicon
 Storage Media: Flash disk, USB memory stick
 Display: 640 × 480 TFT LCD

Interface

Printer: 25 pin parallel port
 Modem: 9 pin serial port
 External PC: 9 pin serial port
 LAN: RJ45
 Keyboard/Barcode: PS/2
 USB Ports: 2 pcs
 Remote I/O: 15-pin High Density DSUB
 Diagnostics: Self tests for internal communication,
 monochromator and detector (offset,
 gain and noise)
 System protection: Dust and humidity protected

PATENTED METHOD - US PATENTS; US 4,944,589 AND EUROPEAN PATENTS; EP 0 320 477 B1, 8704886-4.

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