Infratec™ 1241 Grain Analyser

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.*

## Technical Data

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

## 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

## 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.*

---

FOSS Analytical
Slangerupgade 69
DK-3400 Hilleroed
Denmark

Tel.: +45 7010 3370
Fax: +45 7010 3371

info@foss.dk
www.foss.dk