

NIRS™ DA1650 Oilseed Crush analyser

Direct measurements of solid and liquid samples



The NIRS DA1650 Oilseed Crush analyser helps oil crushers to gain vital process data on liquid and solid material with just one cost-effective analytical unit. Versatile sample presentation allows anyone to get reliable measurements for whole seeds, cake, flakes, meals and oils while true networking capability and simple touch-screen operation keep running costs lower than other NIR solutions.

Sample	Parameters
Direct measurements of solid and liquid samples	Solids: Protein Moisture and Oil Liquids: Moisture, Peroxide Value, Iodine Value, FFA, Phosphorus



Just one solution for oil and cake

Now you can get reliable analysis results for whole grain, cake, meals and oil with just one, low cost solution. Measure solid samples in the normal sample holder, then use the unique gold reflector cup for oil for the liquid samples. The intuitive touch screen interface makes it fast and easy for any user to switch between sample types.

Having just one, easy-to-use unit promotes more frequent testing, giving you more data and more power to control your production process. Maintenance is minimal because you only have one solution to look after. Plus, it is available pre-calibrated removing the need to invest time and resources in developing new calibration models.

Purpose built for your oil-crushing operation

Get your results where you need them – at the production line. The sealed DDA platform withstands vibration, dust or spills that can occur during regular use by plant operators.

The surface of the gold reflector in the liquid sample is protected by quartz glass to avoid wear. The cup and mirror in

the liquid sample cup is specially designed to give consistent measurements for oil, every time by controlling the physical boundaries for the NIR measurements exactly.

Everyone working off the same page – even across multiple sites

You can connect the instrument to the internet for remote management by experts in the field of NIR instrument maintenance and support. More than a simple internet connection, the FOSS Mosaic software actually allows instruments to be monitored and calibration adjustments and updates to be made remotely. These tasks can be performed across multiple instruments and multiple sites instantly in one go.

Factory standardised units allow calibration transferability from unit to unit and from earlier solutions. There is no need to throw away your valuable calibration data.

Precision DDA technology for ISO compliant NIR

The NIRS DA1650 is a digital diode array (DDA) based NIR reflectance and transreflectance analyser with a versatile scanning range of 1100-1650 nm. This range makes it the ideal instrument for highly accurate analysis of all standard parameters such as protein, moisture and oil for solid samples and moisture, PV, IV, FFA and Phosphorus for liquid oil samples.

The instrument complies ISO 12099 guidelines for the application of near infrared spectrometry. Features contributing to this include:

- The use of quartz glass in the sample cup, where a disc is cut from a high quality quartz crystal and polished for a uniform thickness and finish
- A bottom-up light source that avoids any false results due to the formation of moisture on the surface of the sample
- Internal Wavelength reference protected from environment and temperature variations by a BK7 glass

The NIRS DA1650 is fully compatible with other FOSS DDA instruments such as the ProFoss In line NIR analyser enabling you to easily leverage data using a straightforward migration path.

Versatile sample presentation

A specially designed cup and reflector ensures the optimal path length for transreflectance measurements of oils. Built-in PC with touch screen makes operation intuitive - place a sample cup in the analyser and results appear on the screen in less than a minute.

Factory standardised for complete control

Every instrument that leaves the factory is hardware standardised.

Light intensity, bandwidth and wavelength position are all thoroughly controlled in the final stages of production to ensure complete consistency between instruments. Furthermore, once the instrument has been taken into use, internal standards control its performance to ensure no deviations occur over time. This continuous control minimises differences between instruments and makes it simple to add any new instruments to your range.

Intuitive software

The NIRS DA1650 is operated on ISIScan NOVA software using an integrated and intuitive touchscreen. This user-friendly software supports the latest calibration technologies as well as networking options. In addition to its ready-to-use calibration models, it offers a variety of other features including:

- Automatic database storage of results
- Real-time outlier detection for each constituent
- Product control with control limits and target values
- User-defined fields for tracking sample information
- LIMS compatibility (export only)
- Customer support available on-line
- Easy sample export into WinISI calibration software





The power of networking: instruments can be monitored remotely by experts in NIR, calibration data can be collected and transferred and calibration updates/instrument adjustments made without the local user having to take any action.

Online remote instrument management

FOSS Mosaic networking software allows you to connect your NIRS DA1650 instrument to the internet for remote instrument management. Once connected a FOSS NIR specialist, or your in-house team, can monitor and optimise the performance of your instruments online without interrupting routine operations. With Mosaic you can manage all settings on your instrument(s) and carry out tasks such as:

- Instrument and calibration surveillance
- Instrument diagnostics for QC management
- Slope and intercept adjustment
- Unit surveillance
- Calibration updates and optimisation
- Online technical support
- Central reporting
- Protection of valuable data and calibrations

Mosaic software also allows the user to remotely control one or several instruments locally (LAN) without an internet connection.

WinISI and networking software

You can develop your own calibrations for NIRS DA1650 using WinISI calibration software. This software can be integrated with Mosaic networking software to make it simple to transfer your calibrations from a central location to your instruments. Mosaic can also be used to collect and send sample data from your instrument for calibration development.

Global calibrations

NIRS DA1650 is pre-calibrated with global calibrations for many types of samples. FOSS global calibrations are based on extensive samples from different regions and countries, collected over the years. This means they are robust, low maintenance and easy to use already from day one. Full calibration support is available using our remote networking software, Mosaic.

Parameters: Protein, Moisture, Oil, etc.

DDA technology with wavelengths from 1100-1650 nm is most suitable for these basic parameters. For more flexibility in choice of parameters we recommend the NIRS DS2500 with its full wavelength range and increased performance.

Part of a complete high performing solution

Whether you are new to NIR or an experienced user, FOSS offers a complete and customised support program for your NIRS DA1650 instrument.

- On site preventive maintenance visits
- Preventive maintenance parts
- Software updates
- Remote instrument surveillance
- Online and offline calibration support
- Discount on customised calibration development service
- Discount on additional service visits
- 24/7 hotline phone support
- Self maintenance training and video on demand support
- Priority support response



Secure your investment with a FossCare™ Support Agreement

Let FOSS take care of you for a maximum return on your analytical investment. Get a four year warranty as part of the new FossCare Premium Preventive Maintenance Agreement or two years as part of any other FossCare agreement. In addition to the peace of mind afforded by the warranty period, the continual preventive maintenance pays off by keeping your analytical instruments working perfectly every day, year after year.

Why preventive maintenance?

As with any analytical solution, it is essential that your FOSS instrument receives regular maintenance to ensure optimal performance and extended lifetime. Avoiding expensive downtime is a matter of following factory standards and preventively replacing parts before they wear out. In turn, this helps ensure reliable and consistent results at the highest level.

Preventive and predictive maintenance combined with global support from 300 dedicated service, application, software and calibration specialists keeps your instrument running perfectly all year round.



Benefits of a FossCare™ Support Agreement:

- Extended Warranty (two or four years depending on the chosen agreement)
- Regular maintenance; the instrument is diagnosed, cleaned, adjusted, tested, fine tuned and recalibrated
- Minimal downtime from replacing components before they are worn out
- Consistent, accurate and reliable results you can always trust
- Preventative maintenance visits when it suits you (your business)
- 24/7 phone support - no need to worry about closing hours or PO
- Low, fixed service budget prevents unexpected expenses
- Discounts on additional services, spares, training and software upgrades

Contact your local Foss office for more information.

Specifications

Feature	Specification
Dimensions (W x D x H)	230 x 530 x 280 mm
Weight	16 kg
Degree of protection	IP 65 (Dust and water proof)
Measurement mode	Reflectance or Transflectance (for liquid samples)
Wavelength range	1100 - 1650 nm
Detector	256 pixel InGaAs diode array
Optical bandwidth	10.44 ±0.5 nm
Spectral resolution	0.5 nm/data point
Number of data points	1100
Absorbance range	Up to 2 AU
Analysis time	<1 minute*
Wavelength accuracy	<0.5 nm
Wavelength precision	<0.05 nm (standard deviation)
Wavelength temperature stability	<0.02 nm/ °C

* Adjustable

Key features of the NIRS™ DA1650 for Oilseed Crush analyser

- ISO compliant NIR analysis
- Rapid analysis of protein, moisture and oil
- Low maintenance
- Robust design
- Factory standardised
- Compatible with other FOSS NIR solutions
- Ready to use calibrations for a variety of sample types
- Remotely supported through Mosaic network software
- Built-in computer with intuitive touchscreen interface

ONE SOLUTION FOR MORE DATA AND LESS COST

- Fast and reliable analysis of both liquid and solid samples in one cost-effective unit
- One, easy-to-use unit promotes more frequent testing, giving you more data and more power to control your production process
- Just one, low-maintenance solution to look after, also available pre-calibrated removing the need to invest time and resources in developing new calibration models

PURPOSE BUILT FOR YOUR OIL-CRUSHING OPERATION

- Versatile sample presentation including specially designed cup and mirror that ensures the same path length for oil, every time
- Built-in PC with touch screen makes operation intuitive - place a sample cup in the analyser and results appear on the screen in less than a minute
- Sealed DDA platform invulnerable to vibration, dust or spills and with quartz glass protection for the gold reflector liquid sample holder

EVERYONE WORKING OFF THE SAME PAGE – EVEN ACROSS MULTIPLE SITES

- True-networking software can be used to connect the instrument to the internet for remote management by experts in the field of NIR instrument maintenance and support
- Calibration adjustments and updates can be performed across multiple instruments and multiple sites instantly in one go
- Factory standardised units allow calibration transferability from unit to unit and from earlier solutions – don't throw away your valuable calibration data



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