

FoodScan™ for dairy



The FoodScan™ Dairy Analyser is a fast, accurate and easy-to-use instrument for routine analysis of cheese, whey powder, butter and yoghurt. Using NIR (near infrared) transmission technology it measures a variety of parameters with a minimum of sample preparation and delivers results in just 50 seconds. The FoodScan is pre-calibrated with unique ANN calibrations that have received national approvals for the measurement of key quality parameters.

Sample	Parameters
Cheese, whey powder, butter and yoghurt	Fat, protein, moisture, salt, solids-non-fat, total solids and pH



Analyse with ease and confidence

Cost management, production efficiency and quality control. The three elements that can keep your company competitive – provided they are constantly optimised. And there's no better way to ensure this than by using the FoodScan™ Dairy Analyser. Easy to use and reliable, FoodScan can be put to work immediately helping you to:

- Optimise use of expensive raw materials
- Make laboratory operations more time and cost effective
- Improve production efficiency, for instance, by minimizing production stops
- Build brand recognition through consistent quality products
- Improve overall quality control

Improved production control with minimal cost

In production, rapid analysis in under a minute lets you analyse samples during the start-up phase and identify any out-of-spec

products immediately. And because you can test and test again you can make rapid adjustments before mistakes start costing money and affecting quality.

You can also cut costs compared to traditional analysis: on reagents, because near infrared spectrometry makes chemicals redundant.

One calibration, many products

FoodScan comes with tried and tested global calibration models. A single calibration covers all products within a product group, for example, butter or cheese. Plus, the calibrations cover the entire process through to final products. Online calibration surveillance enabled by FOSS Remote Internet Analysis (RINA) software ensures that your calibrations are always up to date.

Fast pay back, lasting advantage

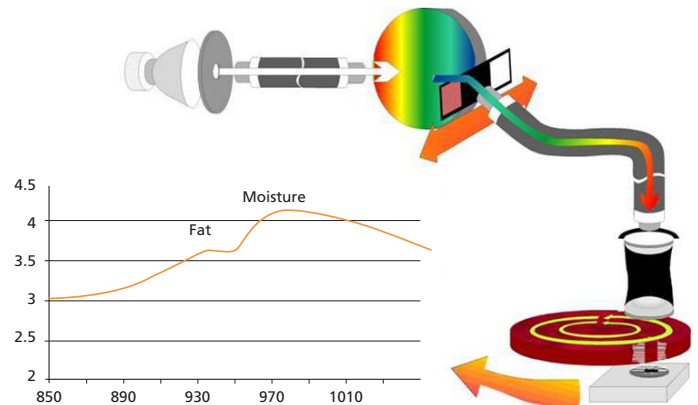
Unique advantages of FoodScan for Dairy for at-line and laboratory analysis of dairy products include:

- **Simplicity:** FoodScan is delivered with an artificial neural network (ANN) calibration that works around the world for a broad range of products – just take the built-in standard calibration and use it straight away.
- **Usability:** Anyone can use it and the instrument also meets specific demands at the production line or in the laboratory.
- **Reliable performance:** Proven performance and compliance with ISO 21543/IDF standard 201:2006 governing Infrared Spectrometry completes the credentials for FoodScan as the optimal solution for control of dairy products.

Technology

The FoodScan technology is based on Near Infrared Transmittance, NIT, which is an advantage when measuring dairy products such as cheese and butter. The NIT-principle, where light is transmitted through the sample, is a major reason for FoodScan's success. The NIT-principle secures a higher level of accuracy, compared to methods, where the result is based on light reflected from the surface of the sample.

The data (absorbencies at different wavelengths) generated by FoodScan are subjected to a mathematical function, a calibration model, in order to calculate the predicted value.



- NIR Transmittance 850-1048 nm on a rotating sample
- 1-40 sub samples
- 45-60 seconds

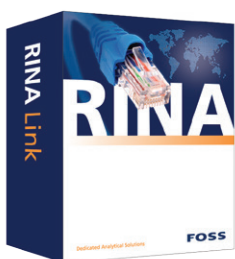
Why FoodScan™ won't let you down

Whether you integrate FoodScan in your laboratory or production line, you can count on accurate readings, time after time. These are just some of the reasons why you can rely on FoodScan:

- Measurements in compliance with the ISO 21543/IDF standard 201:2006 governing Infrared Spectrometry is assured.
- Quick reliable calibration, simply analyse a few products to check the standard calibration and validate according to IDF values. Experience shows that standard calibrations rarely need adjustment, but if so, it is simple to fine tune them to your specific needs.
- OPC interface, can be connected to your production system
- Easy to follow results, as the software makes all data easy

to interpret. An intuitive analysis flow and user-friendly presentation of results helps to eliminate operator errors and quickly identifies out-of spec results.

- The right tool for the job, the NIR (Near Infrared) transmission method yields accurate representative analyses for solid or semi-solid dairy products. Plus, analysis can be easily replicated.
- Powerful maintenance tools and sophisticated software makes it simple to keep your instrument running perfectly.



Remote Internet Analysis (RINA)

With FOSS RINA software you can connect any number of instruments at any location to a central control centre. RINA is all about simplicity and flexibility. Why have one expert for each instrument if you can have one managing your entire network in a fraction of the time? RINA users have found that significant cost savings can be achieved with respect to training, reference analysis, reworks, recalls and general day-to-day operations.



Precalibrated with FOSS ANN Dairy Calibrations

Artificial Neural Networks (ANN) Calibrations cover a wide range of dairy products. So you don't have to gather nearly as many samples as you would for a typical PLS calibration. This saves both time and money compared to traditional reference analysis.



Why FoodScan™ is so easy to use and run

FoodScan is all about innovative technology tailored to fit your every requirement. A range of features combine to keep the cost of analysis – and the time and effort involved – to an absolute minimum.

- Ultimate “plug-and-play solution”. Foodscan’s highly intuitive interface means that no operator training is required
- One-step analysis ensures accurate results every single time.
- Internet access allows you to monitor results without interrupting production
- Data handling facilities help you customise reports for monitoring trends in production.

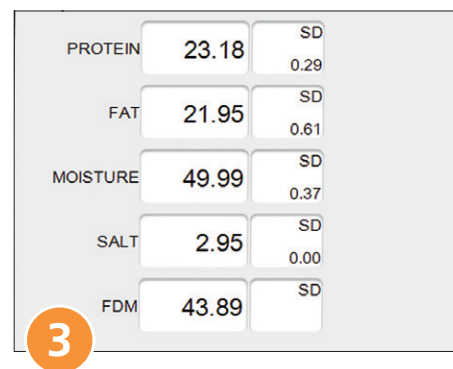
Just how easy it is to use



1
Fill up the sample cup and place it in the instrument



2
Close the door

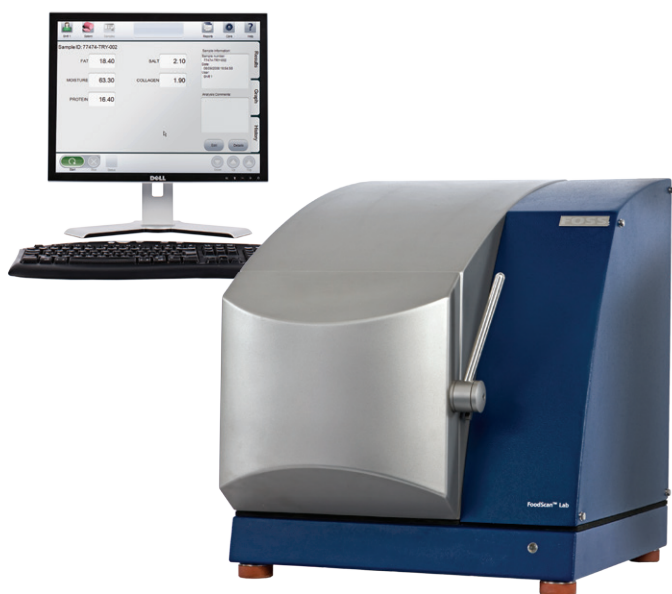


3
Results delivered in 50 seconds!

Laboratory or production-line quality control

For production control, FoodScan™ can either be positioned at the production line or in the laboratory, where it will provide all the data necessary for potential process adjustments. Prior to

shipping, FoodScan can generate a fast and accurate analysis of key quality parameters.



In development with FoodScan™ Lab

FoodScan Lab helps you optimise routine analysis and deliver accurate results, as and when required. Operated from a PC, it offers the same speed, accuracy and ease of use as the FoodScan Pro.



In production with FoodScan™ Pro

Easy to operate via a touch-sensitive screen; built to withstand corrosion, and sealed in line with the IP65 protection class, FoodScan Pro is ideal for use at or in production. And being easy to clean, it helps you maintain the very highest standards of hygiene.

Products	Application examples	Parameter
Cheese	One calibration for all products: Hard and semi-hard cheese, soft, cream and processed cheese. Depending on the product the analysis could be done on one or more of the following stages: after the conveyor press, after casomatic or brine or during ripening or on the finished cheese	Fat, Moisture / Total Solids, Fat in dry matter, Salt, Protein
Yoghurt, quark and similar products	One calibration for all products: Natural or with added fruit pieces and/or sugar	Moisture / Total Solids, Fat, Protein, pH
Salad dressings and condiments	Mayonnaise, dressings and similar products like ready-made sauces	Starter calibration for different parameters
Butter and dairy spreads	Butter, salted and unsalted, reduced fat dairy spreads and margarine	Moisture, Fat, Salt, Solids-non-Fat

Technical specifications

Performance data	
Measuring range:	850 - 1050 nm
Wavelength accuracy	< 0.5 nm
Wavelength precision < 0.01 nm	< 0.01 nm

Instrument data	
Dimensions (H x W x D)	Pro: 75 x 42 x 62 cm, Lab: 45 x 42 x 62 cm
Space requirements:	Approx. 1 m working space in front of the instrument.
Weight, operating:	Pro: 56 kg, Lab: 37 kg
Power Supply:	100 - 240 VAC +/- 10%, 50 - 60 Hz
Fuse:	2.0 A-m
Installation category:	II
Power Consumption:	Max 175 VA
Ambient temperature:	5 - 35 °C
Ambient Humidity:	Pro: 93% RH, Lab: 80% RH
Degree of protection:	Pro: IP 65, Lab: IP 20
Pollution degree:	2
Noise level:	< 70 dB(A)

PC Requirements

FoodScan Lab requires a dedicated PC as instrument controller. The minimum requirements to the instrument controller are documented in a separate FOSS PC datasheet.

Operating system: Windows 7, 32 and 64 bit

Communication: FoodScan Lab: as pr. PC.
FoodScan Pro: USB, TCP/IP

Standards and Approvals

FoodScan is CE labeled and complies with the following directives:

EMC (Electromagnetic Compatibility) Directive 89/336/EEC

LVD (Low Voltage Directive) 73/23/EEC

Patents

FoodScan is covered by the following patents.

Country Patent number

US US 4, 944, 589

SE SE 459767B

EP, DE, ES, FR, GB, IT EP 320477

DE DE 3887664

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