

# LactoScope™ FT-A

FTIR Technology Based Milk Analyser



AOAC and  
IDF compliant

Complete Solution for Liquid Dairy Products



Low to High Viscose products



Fat, Protein, Lactose, Total Solids & SNF



Accurate, Fast & User Friendly



Efficient Use of Laboratory Space

## FEATURES AND BENEFITS

- Automatic Clean & Zero
- Full Spectrum
- The intuitive software compatible with LIMS systems
- Complies with ISO 9622 / IDF 141
- International Safety Standards : CE Mark, EMC Directive, Low Voltage Directive
- Measuring Speed : 30 seconds per sample
- Non Destructive Method for Analysis
- Undiluted Samples measurement for High Viscose Products
- Low cost of ownership
- Low maintenance cost

## PRODUCTS

- Raw, Skimmed, Intermediate and Processed Milk
- Yoghurt
- Whey
- Concentrates
- Cream
- Ice Cream
- UHT
- Whey Protein Concentrates
- Permeate
- Flavoured Milk
- Butter Milk

## PRODUCTS' PARAMETERS

<b>Milk</b>	Fat, Protein, Lactose, Total Solids, SNF Density, FFA, Casein, Urea, Glucose, Galactose, True Protein, NPN - CU, pH, Sucrose, Fructose, Saturated FA, Monosaturated FA, Total Acidity, FPD, Citric Acid, Conductivity
<b>Adulterants</b>	Ammonium Sulphate, Detergent, Glucose, Maltose, Melamine, Salt, Sodium Carbonate, Sodium Citrate, Sorbitol, Starch, Sucrose, Urea, Vegetable Oil, Formaldehyde, Maltodextrin, Hydrogen Peroxide, Nitrate, Sodium Sulphate, Fructose

# LactoScope™ FT-A

<b>Cream</b>	Fat, Protein, Lactose, Total Solids, SNF, FPD
<b>Yoghurt</b>	Fat, Protein, Total Solids, SNF
<b>Ice Cream</b>	Fat, Protein, Lactose, Total Solids, SNF
<b>Whey</b>	Fat, Protein, Lactose, Total Solids, Total Acidity

## Technical Specification

Feature	Specification
Measuring Speed	100 - 120 samples per hour
Calibration Range <sup>3</sup>	Fat 0-55%, Protein 0-15%, Carbohydrates 0-22%, Total Solids 0-60% (0-40% for concentrates), Lactose Range and SNF Range as per Product requirements
Repeatability	≤ 0.25 % CV <sup>2</sup>
Accuracy	≤ 1 % CV <sup>2</sup>
Typical Sample Intake Volume	8 ml
Sample Intake Temperature	5°- 55°C
System Dimensions (D x W x H)	45 x 85 x 50 cm (18" x 33.5" x 20")
Weight	70 kgs, 155 lbs
Power Supply	100-120 V, 60 Hz; 220-240 V, 50 Hz; 400 V
Cleaning	Automatic & Programmable
Calibration Routine	Slope / Intercept adjustment
Optical System	Hermetically adequately sealed and protected

<sup>1</sup> Rose-Gottlieb for fat, Kjeldahl for protein, HPLC for lactose, and oven method for solids

<sup>2</sup> CV is the standard deviation divided by the average of the sample tested, multiplied by 100

<sup>3</sup> Calibration range can be expanded as per provided sample

<sup>4</sup> \*Note: Above specifications are subject to change without prior notice.



### FTIR SPECTROMETER WITH THE DYNA SCAN™ INTERFEROMETER

The LactoScope™ FT-A spectrometer incorporates the PerkinElmer's Dynascan™ interferometer, the OpticsGuard™ technology and molecular sieve as optic compartment desiccant.

### WEB INTERFACE REPORTING AND INSTRUMENT MANAGEMENT\*

The Lactoscope FT-A is supported by the NetPlus web based cloud service. Instruments are connected through a local network or internet and are accessed from anywhere using web browsers.



The intuitive software provides a rapid implementation with minimal training, is compatible with LIMS systems and has the option of protecting the calibrations and data with a password.

\* Optional Services

# Diode Array 7250

At-line & Lab NIR Analysis System



Fast



Easy-to-Use




At-line Ruggedness



Web Interface Software

**Accurate Analysis – Anything, Anywhere, Anytime, Anybody.**





**Industries:** Grain and Oilseed Processing, Dairy, Meat Processing, Animal Feed, Flour Milling, Petfood, Snackfoods, Starch Production, Sugar Production, Bakeries, Ethanol Production, Wood-based Products.

**Parameters:** Moisture/Dry Matter, Solids, Protein, Fat/Oil, Ash, Fiber, Starch, Amino Acids, Fatty Acids, Sugars, Brix, Lactose, and more.

**Fast, Accurate, Easy-to-use, Versatile, Robust.**

### Key features

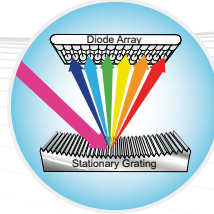
- 6-second analysis of all types of samples
- Modern technology and a wide range of available calibrations
- Easy sample handling and touch-screen operation
- IP65 certified for dust- and water resistance
- Anytime access to results via web browser



**Diode Array 7250**  
At-line & Lab NIR Analysis System

# Accurate Analysis -

*The DA 7250 simply makes sense. It's fast, accurate, easy-to-use, versatile and robust. Our years of experience and expertise have guided its design – optics, housing, sample presentation, workflow and software simplification. It comes in two versions – one for general use and a stainless steel, sanitary design version, for use in the food industry.*



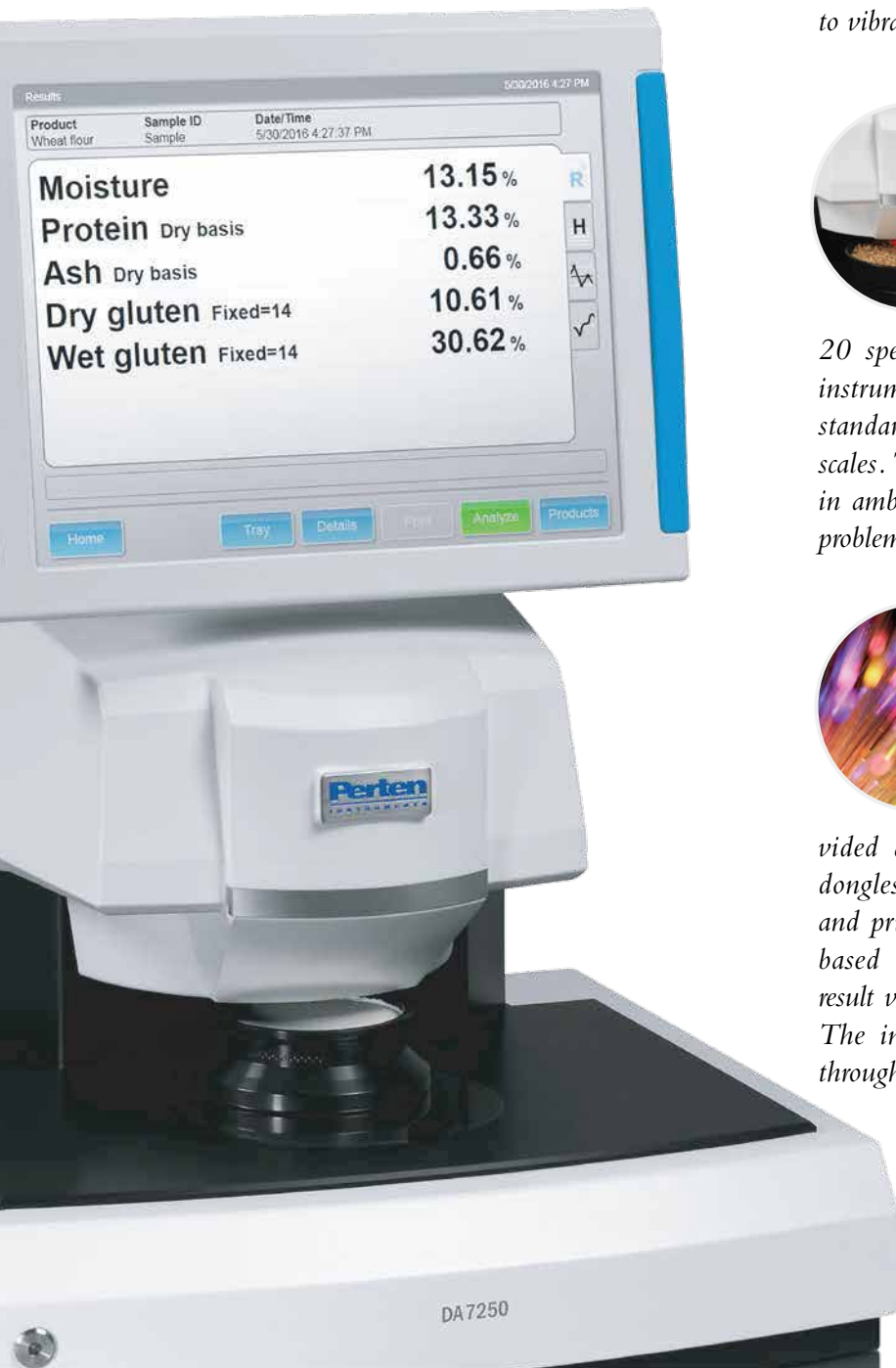
**Robust and reproducible** Diode array technology allowed us to create an instrument with no moving optical components. This improves accuracy and stability, and means that hardware can be standardized, minimizing instrument differences. The DA 7250 sets new standards in calibration transferability. It also removes sources of potential failure as there are no expensive monochromators to wear out and no wiggling mirrors that can be subject to vibration.



**Fast and accurate spectra** The DA 7250 uses a sensor with excellent signal/noise ratio and sensitivity. In combination with the outstanding energy throughput, the DA 7250 collects more than 20 spectra per second, as the sample moves. The instrument is equipped with advanced automatic standardizations of the wavelength and absorbance scales. This improves accuracy, corrects for changes in ambient conditions, and alerts users to potential problems.



**Connectivity** The DA 7250 instrument and software platform is designed for optimal connectivity and data is readily exchanged with other programs. Ethernet and USB ports are provided and Windows peripherals such as a Wi-Fi dongles, cellular/mobile modem, bar code readers and printers are supported. The innovative cloud-based NetPlus software provides measurement result viewing from anywhere using web browsers. The instrument can be remotely administered through NetPlus or Team Viewer.



# Anything, Anywhere,

Grains, powders, pellets, pastes, slurries and liquids

## Anything

*Grains, powders, pellets, pastes, slurries and liquids – nearly any type of sample – can be analyzed on the DA 7250, with no requirement for expensive, cumbersome modules. A large, representative sample area is analyzed meaning little or no sample preparation is required. The use of open-faced dishes removes tedious and time consuming cleaning between analyses. Available factory calibrations cover a wide variety of products and parameters and are built from our global database which encompasses hundreds of thousands of samples. The DA 7250 is ISO 12099 compliant, ensuring analysis that follows international standards.*

## Anywhere

*The DA 7250 is as at home in the lab as it is at-line in processing environments. It uses no moving optical components and employs a solid state drive (SSD) making it vibration resistant. It is IP65 certified (dust proof/water resistant) and temperature stabilized for consistent results. The DA 7250 excels in dusty, dirty and otherwise challenging environments. In food production areas the stainless steel Sanitary Design model meets hygienic requirements. It is designed with an open analysis area and without sharp corners, making it easily cleaned.*

In the Lab & At-line





# Anytime, Anybody.



## Anybody

Plant personnel to experienced chemists find the DA 7250 easy-to-use yet powerful. Its large touch screen with intuitive user interface and straight forward sample handling ensures rapid operator confidence. Operating procedures are designed to eliminate sources of operator error producing accurate results regardless as to who performs the analyses. Configuring and validating instrument measurements is easily accomplished using Netplus Remote web based maintenance software. Accurate analysis is available at all times, enabling you to optimize and verify product quality 24/7, improving efficiency and reducing scrap.

## Anytime

The DA 7250 is fast; test samples anytime, with optimized workflow, little or no sample preparation, in just 6 seconds. When analysis results are needed, the DA 7250 provides them immediately. It automatically performs background standardization tests ensuring accuracy. Not only can samples be analyzed in essentially real-time, but analysis results are available anytime from any location around the world using NetPlus Reports Web based software.





## Lab, At-line and Process

The DA 7250 can be used in the lab and at-line. It is available in two models; General Purpose (GP) and Sanitary Design (SD). For continuous process analysis we offer two sensor models. The DA 7300 series is used for in-line analysis and the DA 7440 series for over-the-belt on-line analysis. As they are based on the same NIR technology, many calibrations can be transferred between the models.



## Web interface reporting and instrument management

The DA 7250 is supported by the NetPlus web based cloud service. Instruments are connected through a local network or internet and are accessed from anywhere using web browsers.

**NetPlus Reports** provides access to analysis results. Monitor production, verify quality of ingredient shipments or get an update on latest analyses. See the results in tables and charts on your laptop or tablet.

**NetPlus Remote** lets you configure instruments, monitor performance and update calibrations. Whether you manage one instrument or an NIR network of one hundred instruments, NetPlus Remote streamlines your tasks.

## Accessories

A wide range of sample presentation accessories are available for the DA7250. Nearly every type of sample, solids to liquids, can be analyzed with little to no sample preparation.



## Specifications

**Analysis time:** 6 seconds

**Sample types:** Grains, Pellets, Powders, Pastes, Slurries, Liquids and more

**Sample area analyzed:** Up to 108 cm<sup>2</sup>

**Sample volume:** Flexible 1 - 400 ml, depending on sample type

**Display:** 12" color touch screen

**Language:** Multiple languages included. English, Chinese, Thai, Russian and many more

**Interfaces:** USB and Ethernet

**Operating temperature range:** 5 to 40°C

**Ingress Protection per IEC60529:** IP65 certified

**Wavelength Range:** 950-1650 nm

**Detector:** Indium Gallium Arsenide (InGaAs)

**Wavelength Accuracy:** < +/-0.05 nm

**Power requirements:** 115 or 230V, 50 or 60 Hz (specify by order)

**Dimensions ( HxWxD ): 517 x 370 x 390**

**Net Weight:** 13 kg



# IndiScope™

## FTIR Milk Analyzer



### Introduction

The PerkinElmer IndiScope™ is a high-performance, and robust FT-IR system enabling simple, reliable and high accuracy results for milk quality testing and adulterant screening. It's designed for installation in a milk collection environment and has a hermetically sealed quality spectrometer to prevent moisture and dust to get into the optical system of the instrument.

A flexible design with optimized "plug-and-play" sampling and analysis modules ensures the best solution for a range of quantitative and adulterant screening applications. Simple and intuitive touchscreen user interface ensures a straight forward workflow.

PerkinElmer IndiScope™ FT-IR is built to the highest ISO-9001 manufacturing standards.

SPECIFICATIONS	
Technology	FT-IR
Sample Types	Row cow milk, Raw buffalo milk, Raw mixed milk
Sample Capture Time	< 45 seconds
Minimum Range Capacity	Fat: 0 - 12% Protein: 0 - 8% SNF: 0 - 14%
Accuracy	Fat: 0.1% Rose Gottlieb Protein: 0.08% Ref Kjeldahl SNF: 0.14% Oven drying method
Repeatability Std Dev	Fat: 0.04 Protein: 0.04 SNF: 0.08
Targeted Adulterants Limits of Detection (LOD)	Added Water $\geq$ 20 % Urea $\geq$ 0.10 % Sucrose $\geq$ 0.30 % Maltodextrin $\geq$ 0.60 % Ammonium Sulphate $\geq$ 0.08 %
Untargeted Adulterant Detection	"abnormal milk screening" display in presence of Glucose, Sorbitol, Melamine, Sodium Chloride, Sodium Citrate, Starch, Hydrogen Peroxide, Formalin, Detergents, Sodium Carbonate, Sodium Bicarbonate, Vegetable Oils with Chemical Emulsifiers, NaOH and any other Chemicals with IR absorbance.
Sample Temperature Range	5-40 °C
Sample Volume	<5 ml
Data Interface	2 x USB Ports data connectivity and update of software trough USB stick, Rs 232 (Optional)
Display	LCD graphical display/color TFT display (touchscreen)
Model Transferability	Yes
Clean & Zero	Manual
Warm-up time	Approx. 30 minutes
Calibration Method	Slope & Intercept
Carry Over	<1%
Weight	16 KG
Dust / Water Classification	IP41 for main cabinet, hermetically sealed FT-IR optics
Approvals	Complies with ISO 9622 / IDF 141, AOAC official method 972.16
International Safety Standards	EMC Directive, Low Voltage Directive

D-902, Ganesh Meridian,  
Opp. Gujarat High Court,  
S.G.Highway,  
Ahmedabad - 380060,  
Gujarat, India  
+91 79 40320010/12/13



[www.evereststruments.in](http://www.evereststruments.in) | Toll Free: 1800 233 2212 | [info@evereststruments.in](mailto:info@evereststruments.in)

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