

LactoScape FTIR

Dairy Analyzer

Official Approvals:
AOAC, IDF



Milk, Cream, Yogurt & Whey



Fat, Protein, Lactose & Total Solids



Efficient Use of Laboratory Space



Easy to Use

Process & Laboratories



LactoScope FTIR Advanced Mid-IR Dairy Analyzer.



The LactoScope FTIR Milk Analyzer method is AOAC and IDF approved for the analysis of fat, protein, lactose, and total solids in milk. It's a state-of-the-art instrument, with modern FTIR optics, and simple to use but powerful software. The LactoScope FTIR can test other products such as cream, yogurt and whey thereby increasing its value and versatility.

The Delta LactoScope™ FTIR Advanced (FTA) incorporates the latest technology based on Fourier transform infrared principles. The instrument's modular construction minimizes the vibration of the FTIR bench and its integrated design provides efficient use of laboratory space. The LactoScope ensures a low ownership cost, minimum downtime, ensured accuracy, and world-class support for every dairy processor.

Providing Industry-Leading Capabilities for Dairy Component Analysis

Lactoscope FTIR Advanced features and benefits

Auto-Clean and Auto-Zero automatically maintain sample pumping unit and measuring cell. Reduces the need for technician maintenance and preparation time. Improves reliability and accuracy by ensuring cleaning is performed.

Sample pre-heat and homogenization standardize the temperature and particle size of the fat globules.

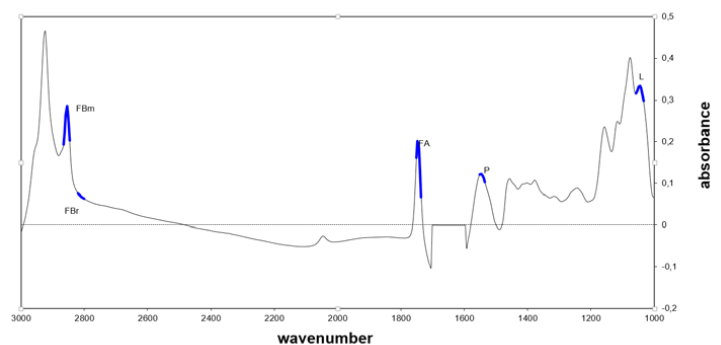
Full-spectrum analysis enables quantification of all components.

Intuitive software means rapid implementation with minimal training. Calibrations and data can be password-protected. Compatible with LIMS systems.

Instruments are pre-loaded with calibrations for all dairy applications. Ready-to-analyze standard products for fast startup and implementation.



Complete milk spectrum



Products

Milk, cream, whey, condensed (milk and cream), ice cream mix, yogurt mix, cheese milk, flavored milk, UHT, WPC.

Milk payment samples.

Optional solid cheese analysis.

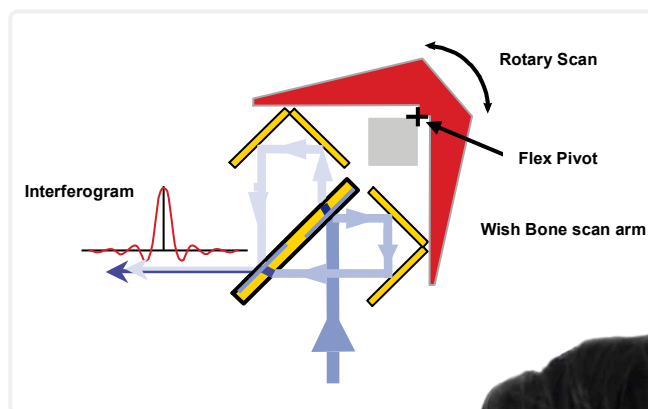
Components

Butterfat, protein, lactose, total solids, SNF.

Added water, true protein, casein, NPN/calculated urea, free fatty acids, pH, citric acid, density, other carbohydrates.

Patented Wishbone FTIR Spectrophotometer

The LactoScope FTIR Advanced uses Fourier transform infrared technology and measures the complete spectrum of the dairy sample. The pre-aligned wishbone design is at the heart of the spectrophotometer; it ensures absolute wavelength reproducibility and easy and accurate calibration transferability. The LactoScope FT mid-IR method is AOAC and IDF approved for the analysis of butterfat and protein in milk.



Accessories

We offer a full line of consumables and accessories to ensure optimal system performance.

Specifications

Standard parameters: Butterfat, protein, lactose, total solids, SNF

Additional parameters: Added water, true protein, casein, NPN/calculated urea, free fatty acids, pH, citric acid, density, other carbohydrates

Measuring speed: 80-120 samples/hour

Measuring range for undiluted samples: Fat 0%-55%, Protein 0%-25%, Carbohydrates 0%-25%, Total solids 0%-60%

Repeatability in general (CV*): $\leq 0.25\%$

Accuracy typically (CV*): $\leq 1\%$ (bulk samples from cow milk)


Sample volume: Typical 10 ml

Sample temperature: 2°C to +50°C (36°F to +122°F)

System dimensions (D x W x H): 17.72" x 33.46" x 19.70" (45 cm x 230 cm x 50 cm)

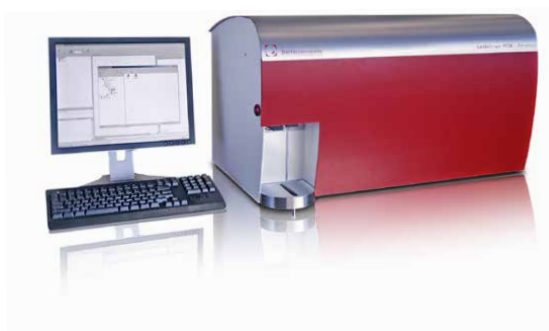
Weight: 190 lb (86kg)

Power supply: 110 V-240V, 50 to 60 Hz, 650 VA incl. PC

Standard/approvals:  EMC directive 89/336/EC, Low-voltage directive 73/23/EC, IDF 141C

*CV, Coefficient of Variation is equal to the standard deviation divided by the average of the sample tested, times 100. Rose-Gottlieb for fat, Kjeldahl for protein, HPCL for lactose, and oven method for total solids.

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is now a part of
Pertent Instruments*

 **Delta**
INSTRUMENTS
a PerkinElmer company

Pertent
INSTRUMENTS
a PerkinElmer company

CombiScope FTIR 600 HP

Official Approvals:
AOAC, IDF, FDA



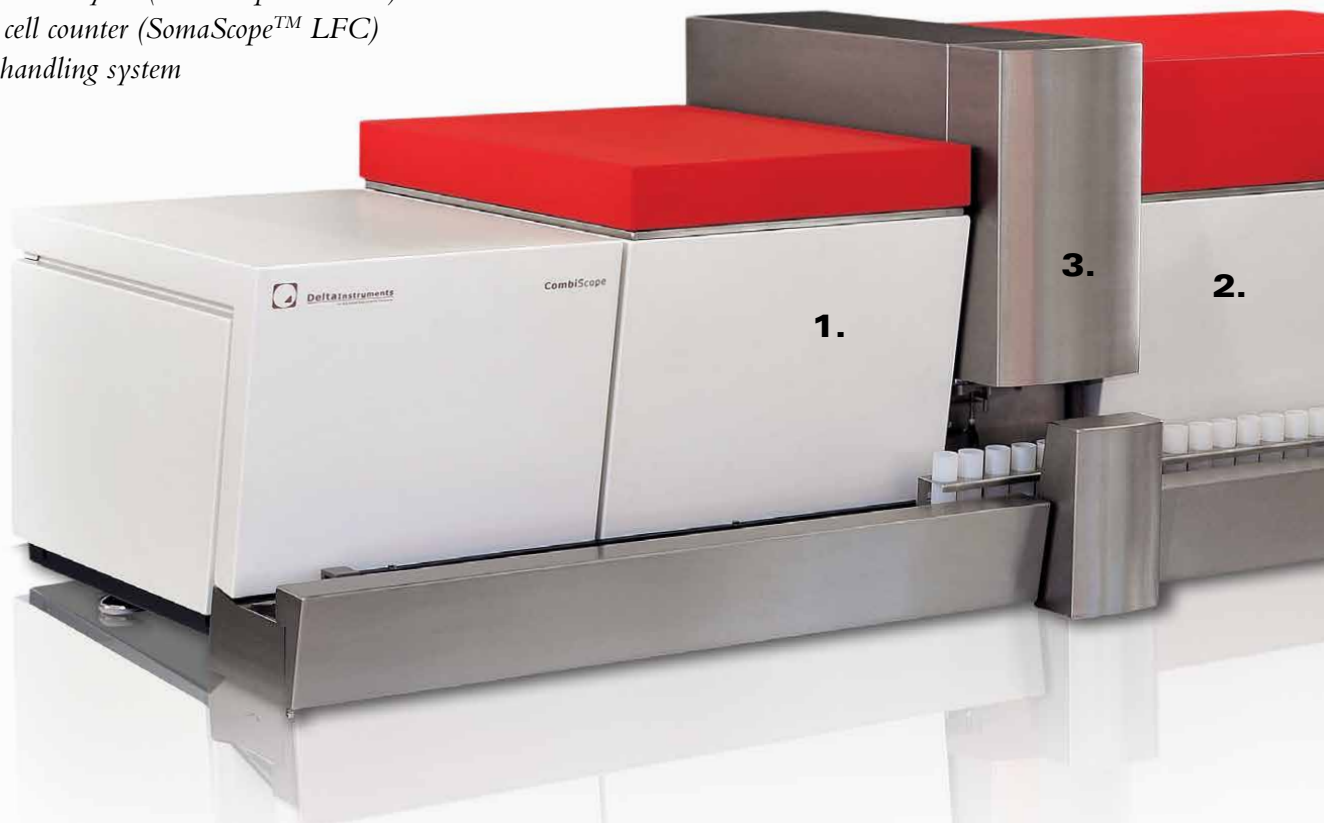
Combined Dairy Herd Improvement & Milk Payment Laboratories



High volume/High Speed Liquid Milk Analysis for Components and Somatic Cell Counts.

The system consists of:

1. A component analyzer (LactoScope™ FTIR)
2. A somatic cell counter (SomaScope™ LFC)
3. A sample handling system



The Delta CombiScope™ FTIR 600 HP dairy analyzer provides the highest sample throughput available for routine analysis of cow, goat, sheep, and buffalo milk.

The system consists of a component analyzer (LactoScope™ FTIR), a somatic cell counter (SomaScope™ LFC), and a sample handling system. This combination can analyze at speeds of **600 samples per hour**.

The CombiScope FTIR 600 HP incorporates many industry-first technologies that allows operators to increase lab capacity, throughput, and business opportunities.

Industry-Leading Capabilities for Dairy Herd Improvement & Milk Payment Laboratories

CombiScope FTIR 600HP features & benefits

600 Samples per hour – The industry's highest speed – increase your throughput and profit and provide rapid turn-around to your customers.

Patented Interferometer ensures accuracy minimizing maintenance & calibration for component analysis.

Somatic Cell counter utilizes an LED light source to eliminate source wear and gains adjustments.

Conveyor System incorporates sensors to monitor sample quality. Sample head controlled by electromagnetic drive – there is no wear. Can be used with bar code or RFID coded samples.



Technology for Success



Delta and Perten Instruments are dedicated to developing and implementing technologies that improve our instruments and add value to our customers. In 1989, Delta pioneered the use of Flow Cell cytometry for counting somatic cells. Our latest version uses a dual photo-multiplier along with an LED light source to nearly eliminate operator maintenance.

Lifetime Warranty

Our patented interferometer uses a fixed-point design to scan samples for components. It is maintenance-free and comes with a limited lifetime warranty on the scanning mechanism. Coupled with a maintenance-free diode laser, this scanning system is designed to operate easily and trouble-free for many years.



Our new sample conveyor uses multiple sensors to monitor sample quality and can be operated in reverse to easily re-analyze. Our sample head uses no motors, instead relying on an electromagnetic linear drive to eliminate wear and to speed analysis.

Operator controlled system is designed to be ergonomically comfortable and user-friendly.

Intelligent Diagnostic System (IDS) works with operator to monitor and assess system performance.

Simple Touch Screen operation allows for easy start-up and rapid, accurate data handling and transfer.

Intelligent Diagnostic System (IDS) alerts operators to hard-to-analyze samples.

AOAC and IDF approved – The CombiScope mid-IR method is AOAC and IDF approved for the analysis of butterfat and protein and FDA approved for somatic cell counts.



Specifications

Products: Milk

Parameters: Fat, Protein, Lactose, Total solids, NPN-CU and Somatic Cell counting

Analysis capacity: 600 samples/hour instrument speed

IR principle: Rotation scanning mechanism, Fourier Transform Infra Red

Somatic cell counter principle: LED flow cytometer

Sample intake: 6 ml

Required sample temperature: +37°C to +42°C (98.6°F to +107.6°F)

Operating system: Windows 7

Operating interface: Touchscreen, keyboard, mouse

Data transfer: UTP

Weight: Approx. 727.5 lb (330 kg)

System dimensions (D x W x H): 17.72" x 33.46" x 19.70" (45 cm x 230 cm x 50 cm)

Type: Desktop

Power consumption: 750 nominal 1200VA Max

Power supply: 110V-240V

IP classification: IP22

Approvals: CE, AOAC, IDF and FDA. The management system governing the manufacturing of this product is ISO 9001 registered.

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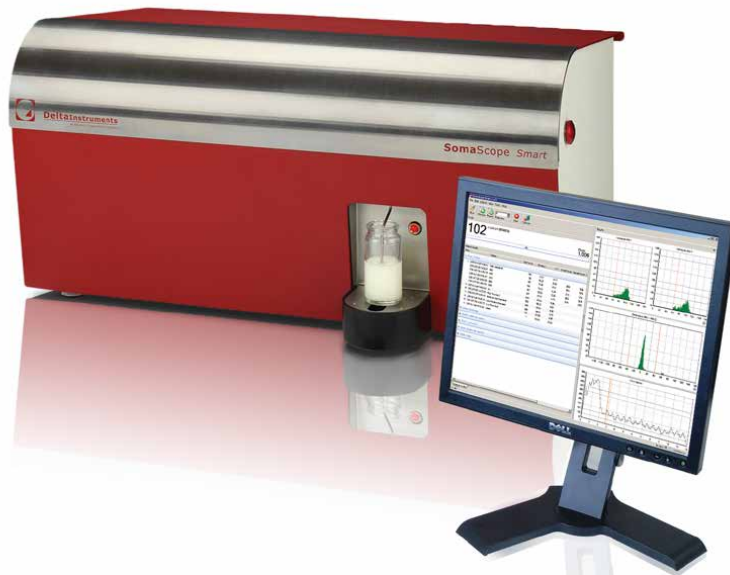
*Delta Instruments
is now a part of
Perten Instruments*



SomaScope Smart

Somatic Cell Counter

Official Approvals:
IDF, FDA



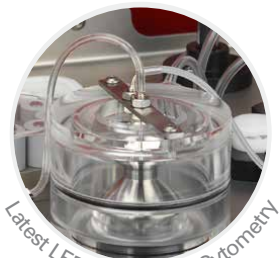
Fast - 39 sec



Individual Cow Sample Testers



Producers, Transporters, Central Dairy Lab



Latest LED & Flow Cell Cytometry

Industry-Leading Somatic Cell Counting



SomaScope Smart Somatic Cell Counter.



The Delta SomaScope™ Smart incorporates the latest in LED and Flow Cell Cytometry. It's fast, accurate and easy to use providing information at the touch of a button. The integrated design makes operation and maintenance simple. The intuitive software allows operators to analyze easily while managing calibration and data sharing capabilities.

Whether testing individual cow samples to improve herd health and yield or in-process samples to improve shelf-life and quality, the SomaScope Smart provides the most accurate and affordable solution for your laboratory.



Providing Industry-Leading Capabilities for Somatic Cell Detection and Quantification

SomaScope Smart features & benefits

LED Light Source feature saves money based on long lifetime and limited need for gains adjustments or calibration.

Dual Photomultiplier ensures counting every cell and validation of repeatability. Reports a Q-value for every analysis.

Flow Cell Cytometer provides a low cost analyzer with industry leading accuracy, repeatability and durability.

Auto Clean and Auto Zero automatically maintain sample prep unit and flow cell. This reduces the need for technician time spent on prep and maintenance.

Intuitive Software allows for rapid implementation. Data is readily exported to create reports.

DAPI Staining Solution more accurately stains somatic cells. Delta's use of this stain is based on our commitment to providing safe products.

The versatility of the SomaScope Smart provides users with an accurate, durable analyzer that is used to measure individual raw cow samples or in-process preserved samples.

Users

Individual cow sample testers such as producers, transporters, central dairy laboratories.

In-process samples can be tested for milk processors and cheese plants.

Clinical testing by veterinary labs for the detection of mastitis.

Products

Cow, sheep, goat, buffalo, and camel milk.

Raw or preserved.



The SomaScope is FDA approved for somatic cell counts.

LED Flow Cytometry



The SomaScope Smart is the first somatic cell counter to use a Light Emitting Diode (LED) as the light source. This provides quicker start-up, more repeatable measurements, and long life. This low cost solution removes the need for time consuming and error causing gain adjustments. The LED is expected to last for the life of the instrument.



Delta Instruments pioneered the use of Flow Cytometry for counting somatic cells. Since 1989, the cytometer has been to produce more accurate results with lower costs. Latest improvements allow for laminar flow of cells through the flow cell while the Dual Detection System ensures every cell is counted. The SomaScope Smart is linear from 0 to 1×10^7 cells/ml.



Accessories

We supply a full line of consumables and accessories to ensure optimal system performance.

Specifications

Products: For fresh or preserved cow, sheep, goat, buffalo, and camel milk

Measuring speed: up to 120 samples per hour

Measuring range: From 0 to 1×10^7 cells/ml

Accuracy (CV*): < 10% relative to Direct Microscopic Somatic Cells Count

Repeatability (CV*): < 5% at 1×10^5 cells/ml, 3% at 3×10^5 cells/ml,
< 2% between $0.5 - 2 \times 10^6$ cells/ml

Linearity: Up to 1×10^7 cells/ml

Sample volume: 3 ml (replicates 1.5 ml)

Sample temperature: $+40^\circ\text{C} \pm 2^\circ\text{C}$ ($+104^\circ\text{F} \pm 35^\circ\text{F}$)

Carry-over: < 1%

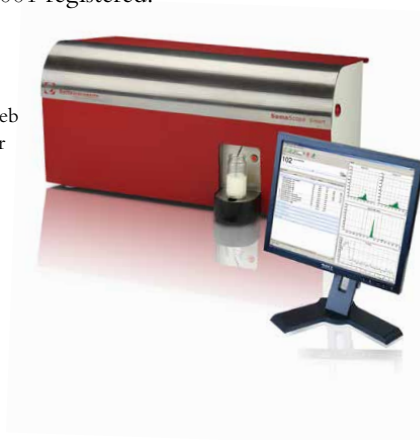
System dimensions (D x W x H): 18.50" x 29.13" x 14.57", (47cm x 74 cm x 37 cm)

Weight: 62 lb (28 kg)

Power supply: 110V-240V, 50 to 60 Hz, 150 VA incl. PC

Standards/approvals: IDF 148-2, ISO 13366-2, NCIMS, FDA Form 2400, EMC directive 2004/108/EC, Low-voltage directive 2006/95/EC, **CE** The management system governing the manufacturing of this product is ISO 9001 registered.

*CV, Coefficient of Variation is equal to the standard deviation divided by the average of the sample tested, times 100. Rose-Gottlieb for fat, Kjeldahl for protein, HPLC for lactose, and oven method for total solids.



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is now a part of
Pertent Instruments*

Delta
INSTRUMENTS
a PerkinElmer company

Pertent
INSTRUMENTS
a PerkinElmer company

LactoScope Filter

Dairy Analyzer

Official Approvals:
AOAC, IDF



Economical Liquid Dairy Analysis System



LactoScope Filter

The LactoScope™ C3+/C4+ is the perfect solution for all dairy processors that require highly cost-effective dairy component analysis without the expense of unneeded capabilities. The instrument incorporates mid-infrared (MIR) technology, an IDF- and AOAC- approved method.

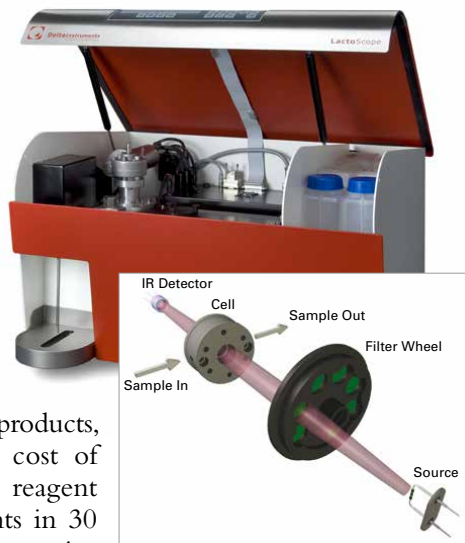
Ideal for testing incoming milk and end products, the LactoScope C3+/C4+ provides low cost of ownership, in a modular design, has low reagent expenses, and analyzes multiple components in 30 seconds. It's the ideal analyzer for busy dairy laboratories.

The LactoScope is designed to collect information from specific mid-IR wavelengths to analyze for common components in liquid dairy products.

Standard configuration allows operators to measure fat, protein, lactose and solids. Additional options allow for the analysis of added water and - in conjunction with the cheese application - fat, salt, pH, and fat in dry and solid cheese products.

The LactoScope C3+/C4+ is specifically designed for processors desiring fast, reliable, and accurate measurement of raw milk, cream, whey, and other dairy products. Easy operation and quick startup provide quality managers with the perfect tool for milk and cream standardization. The instrument is capable of processing up to 150 samples per hour. The Auto-Clean/Auto-Zero function ensures the instrument will always be ready to analyze and removes sources of error.

Specific bandwidth filters in the LactoScope C3+/C4+ allow only the wavelengths of interest to pass. Laboratories around the world rely on this dependable technology.



Specifications

Version LactoScope C3+: (fat, protein, and total solids)

Version LactoScope C4+: (fat, protein, lactose, and total solids)

Standard parameters: Fat, protein, lactose, and total solids

Additional parameters: Solids, nonfat; freezing-point depression (FPD)

Measuring speed: 120 to 150 samples per hour

Measuring range for undiluted samples: Fat 0%-55%, Protein 0%-15%, Lactose 0%-20%, Total solids 0%-60%, Solids, nonfat 0% to 20%, FPD 450 m°C to 550 m°C*

Repeatability in general (CV):** ≤ 0.25%

Accuracy typically (CV):** ≤ 1% (bulk samples from cow milk)

Sample volume: Typical 8 mL

Sample temperature: 2°C to +42°C (36°F to +108°F)

System dimensions: 43 cm D x 67 cm W x 51 cm H, (16.93" x 26.38" x 20.08")

Weight: 42 kg (92.59 lb)

Power supply: 110V-240V, 50 to 60 Hz, 650 VA incl. PC

Standards/approvals: EMC directive 89/336/EC, Low-voltage directive 73/23/EC, IDF 141 C

*After Koops et al.

**CV, Coefficient of Variation is equal to the standard deviation divided by the average of the sample tested, times 100. Rose-Gottlieb for fat, Kjeldahl for protein, HPCL for lactose, and oven method for total solids.

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Delta Instruments
is now a part of
Perten Instruments



Dairy Product Analysis



Laboratory and Process Instruments and Support



Complete analysis solutions for milk and dairy products



Perten Instruments and Delta Instruments are now one and the same organization. Together we offer the widest range of analyzers for the dairy

industry – from milk analysis, through the production process, to your finished products.

The performance of our instruments match or exceed the industry standards. Our milk analyzers all work according to internationally recognized standards like *IDE, ISO and ICAR*. Delta Instruments is also member of *Fepale*.

You can rely on our experience and expertise which comes from more than 30 years in the industry and thousands of instruments sold worldwide.

Functional and Compositional Analysis

Our instruments are extremely versatile. Use them to aid in product development, formulation, and optimization. Use them to measure ingredients before they enter your process. Use them to improve efficiency, productivity and reduce costs – while improving quality.

Dairy products are versatile materials that require many different analyses dependent upon the material in question and its use. The information required falls into two general groupings:

Compositional Information: Lactose, Fat, Total Solids, Protein, Moisture etc. is required for formulation and nutritional information.

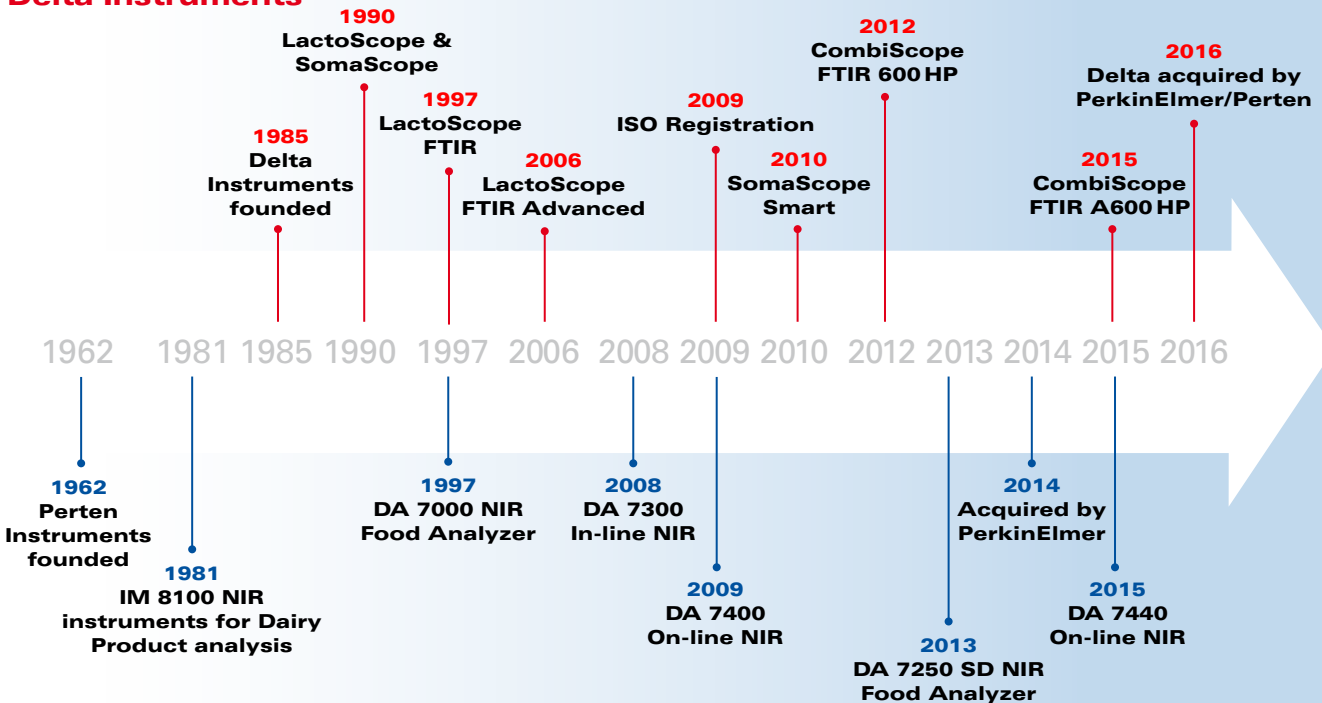
Functional Information: How the product will perform – melt, flow, stick, etc. – under specific conditions in a specific formulation or matrix.

Perten and Delta are uniquely equipped to measure both of these important sets of attributes.



TIMELINE 1962-2016

Delta Instruments



Perten Instruments

Benefits of Partnering with Perten Instruments

You are more than just a customer when you purchase an instrument from Perten Instruments. We take our goal of offering the best instrumentation and support in the industry very seriously. You can reduce costs and improve product quality by using our instruments to:

- Monitor incoming ingredients
- Optimize production processes
- Verify finished product quality
- Improve formulations and develop new products

We provide you access to our more than 50 years of analysis capabilities and expertise. We provide installation, training, maintenance and complete service.



Milk Analyzers

COMPOSITIONAL ANALYSIS



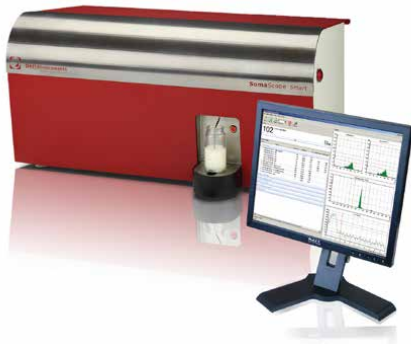
Delta LactoScope FTIR

The LactoScope™ FTIR Milk Analyzer is AOAC and IDF approved for the analysis of fat, protein, lactose, and total solids in milk. It's a state-of-the-art instrument, with modern FTIR optics, and simple to use but powerful software. The LactoScope FTIR can test other products such as cream, yogurt and whey thereby increasing its value and versatility. Ideal for checking incoming milk and end products, this instrument offers low cost of ownership, modular design, low reagent expense, and 30-second response time. It's the ideal component analysis tool for busy dairy laboratories. The LactoScope FTIR is chosen for its excellent accuracy and versatility for dairy products such as yoghurt and ice cream mixes and concentrates.



Delta LactoScope Filter

The LactoScope™ C3+/C4+ is the perfect solution for all dairy processors that require highly cost-effective dairy component analysis without the expense of unneeded capabilities. The instrument incorporates mid-infrared (MIR) technology, an IDF- and AOAC approved method. The LactoScope Filter is a simpler instrument for milk and cream products and smaller product sites. Perfect analyzer for milk and cream products.



Delta SomaScope Smart

The Delta SomaScope™ Smart incorporates the latest in LED and Flow Cell Cytometry. It provides fast, accurate and easy to use information at the touch of a button. Whether testing individual cow samples to improve herd health and yield, or bulk tank milk samples to improve shelf-life and quality, the SomaScope Smart provides the most accurate and affordable solution for your facility. The integrated design makes operation and maintenance simple. The intuitive software allows the operator to analyze easily while managing calibration and data sharing capabilities.

Dairy Products Analyzers

DA 7250 SD At-line NIR

The DA 7250 SD is an IP65 certified sanitary design NIR instrument for use in production areas or the lab.

- 6-second analysis
- No sample preparation or cleaning required
- Flexible and easy to use

Analyze all types of dairy products with accuracy similar to reference methods. Liquids, slurries, powder, pastes and solids – all in one instrument.

DA 7300 In-line NIR

USDA approved NIR process sensor to provide continuous real-time control. The instrument and results are readily integrated into process control systems for automated or manual adjustment. Connect to butter churns and control butter fat to <math><0.2\%</math> of target while monitoring salt levels. Mount on dryers for moisture optimization.

DA 7440 On-line NIR

The DA 7440 On-line offers real-time analysis over a moving conveyor belt. It measures fat, moisture and more in for example sliced or grated cheese and cheese products.

The Rapid Visco Analyser

A flexible heating, cooling and variable shear viscometer for process simulation of recombined products such as sweetened condensed milk, yoghurt, cream cheese and ice cream. Assess batch differences in skim milk powders, whey protein concentrates and protein isolates that affect fitness for purpose. Assess the rehydration rate of rennet caseinate. Use the RVA as a "Miniature Pilot Plant" for processed cheese manufacture and meltability.

The TVT

The TVT measures various textural properties of dairy products by cutting, pulling, pushing, and poking samples and measuring force response over time. The TVT is used in R&D/Product Development to test effects of new ingredients or suppliers and used in Production/Quality Control to ensure consistent quality. Use the TVT to measure properties such as cutting force, gel strength, springiness, gumminess, extensibility and much more.



COMPOSITIONAL ANALYSIS

FUNCTIONAL ANALYSIS

Milk Analysis

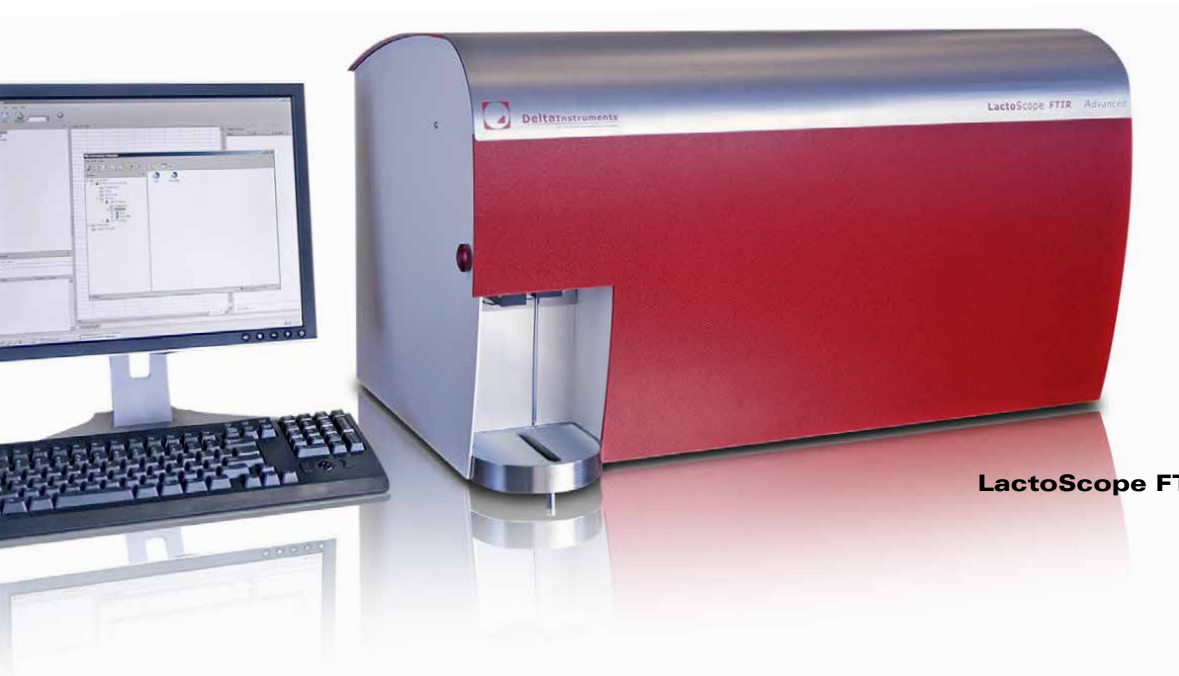


Efficient production of quality dairy products require full control of incoming milk quality. This puts high demands on milk analyzers as they need to meet multiple seemingly conflicting criteria. Accuracy, rapid analysis, ease of use and robustness all need to be there. The Delta range of analyzers is the result of more than 30 years' experience of milk testing technology.

Analysis for Payment and Acceptance

The **Delta LactoScope** is widely used by dairy companies to determine quality of incoming milk for pricing purposes. Accurate analysis is key for trust between buyer and seller. The LactoScope uses patented mid-IR technology which follows AOAC and IDF approved methods for the analysis of butterfat and protein in milk. In addition, it determines a range of other parameters including lactose, total solids, SNF, added water and more.

Using the **Delta SomaScope Smart** for rapid somatic cell testing you can ensure that incoming milk meets standards, and that your end products will have the expected shelf-life.



LactoScope FTIR Advanced



SomaScope Smart



Milk Standardization

When producing **consumer milk** great savings can be made through standardization. Monitoring seasonal variation in composition and variation between suppliers give you the opportunity to adjust the composition and produce milk which is closer to targets. Rapid analysis of fat content in skimmed milk and cream after the separator enables you to adjust the blending back of cream to reach your exact target. The **Delta LactoScope** makes it easy to test fat content of milk as well as cream samples, giving you accurate results for optimal standardization.

Cheese producers can optimize the casein content, and the ratio between fat and casein in the milk, to increase cheese yield. The **Delta LactoScope** accurately determines casein and makes it possible to optimize the milk composition for the specific cheese type to be produced.

Milk powder producers can tailor the ratio between fat and protein in the end product by standardizing the milk. Several techniques are available to either increase or decrease the milk protein content, but they all depend on rapid and accurate analysis of milk composition. The **Delta LactoScope** is widely used for this purpose and is an excellent investment with a typical payback of 6-12 months.

LactoScope Filter



Cheese Powders

Important ingredient



Cheese powders are used in many packaged and instant foods including macaroni and cheese, rice dishes, snackfoods, soups and sauces. It is almost always a very important functional component of the meal and serves as the primary thickening agent in macaroni and cheese dishes for instance.

If the cheese powder is not formulated properly, the customer will be dissatisfied as the end result will be a soupy mac and cheese or a chunky mac and cheese. Cheese powders must also adhere to materials when applied to foods such as chips.



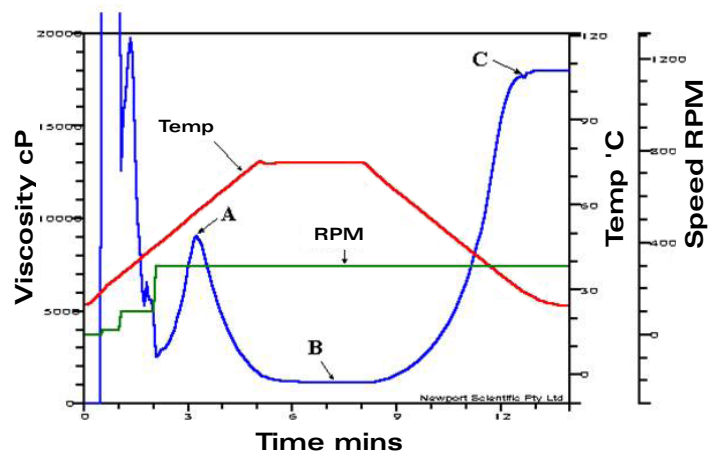
Check product performance

The **RVA** allows you to measure your product's functionality before it leaves your facility. Your customers therefore can rest assured that your product will meet their use demands. Cook up cheese powders and monitor gelling and pasting properties just as the customer will use it. Record the results and "fingerprints" for comparison and verification.

The **DA 7250 SD** NIR instrument determines moisture, fat, salt and color (L, a, b) in cheese powders in only 6 seconds.

Uses and benefits:

- Optimize use of ingredients
- Monitor cheese powder quality quickly and accurately
- Save money by reducing re-work
- Improve customer retention through delivery of consistent quality products
- Use the RVA as a miniature pilot plant to optimize cost use of ingredients while maintaining desired functionality
- Use the RVA to "cook" the cheese powder using package instructions





Put sample in a disposable dish



Select product



Results in 6 seconds

Cheese Analysis

6-sec compositional analysis



Using the **DA 7250 SD** you can measure multiple components in cheese in just 6 seconds. Analyze grated, blocks, slices, or core samples. Samples are analyzed in open faced dishes minimizing sample prep and there is no clean-up. Analyze large volumes of samples to ensure the sample is representative of an entire batch. Typical parameters include Moisture, Fat, pH, and Salt.

Formulate processed cheeses using the RVA

Processed cheese is often a blend of natural cheeses. There are thirteen different choices for emulsifying salts and many other optional ingredients depending upon desired flavor and functional characteristics. During manufacture, the cheese and other ingredients are mixed and melted (usually 70–85°C) into a homogeneous mass. Formulation can therefore be quite difficult:

1. Selected blend of natural cheeses is variable and constantly changing.
2. Manufacturing system and parameters influence functionality.
3. Optional ingredients influence functionality and cost.
4. Cost of a formula is variable.

The different RVA parameters provide different information about the process cheese. Minimum viscosity is a measure of how flowable the cheese is when held at a fixed temperature. The melting and solidification temperatures indicate how soon a cheese begins melting when heated and how quickly a cheese solidifies on cooling. It is possible to use a combination of the minimum viscosity, melting temperature and solidification temperature to differentiate otherwise similar cheeses and determine the fitness of a batch of cheese for different food products such as pizza, sauces, dips or other uses.

Uses and benefits:

- Optimize use of ingredients
- Monitor cheese quality quickly and accurately
- Save money by reducing re-work
- Improve customer retention through delivery of consistent quality products
- Formulate processed cheeses to exact specifications
- Use the RVA as a miniature pilot plant to optimize cost of ingredients such as emulsifiers while maintaining desired functionality

On-line cheese analysis





DA 7250 SD

In-line butter measurement



Yogurt, Cheese Spreads, Sauces

Savings potential



The **DA 7250 SD** NIR instrument analyzes these types of samples in only 6 seconds. Thanks to disposable analysis cups there is no need for clean-up after analysis. Rapid analysis of moisture/solids, protein and fat provide the means to save money on ingredients while improving consistency.

Improve product quality

The **RVA** provides unique opportunities to test these products where functional properties are key to quality.

Yogurt Extremely repeatable, user-friendly, rapid analysis of texture, viscosity, “mouth feel,” effects of shear, heat, cold and enzymatic activity.

Cheese and processed cheese spreads

Analyze melting characteristics, viscosity of melted cheese, gelling characteristics of whey protein concentrates, and the hydration index of rennet caseinate.

Sauces Assess thickening, viscosity breakdown, melting, and starch pasting characteristics quickly.

Butter

Toe the line



Ensure that you meet the stringent regulations yet do so as profitably as possible. Our NIR instruments help you optimize production.

DA 7300 In-line NIR measures fat, moisture and salt in real-time in the process line, and can be integrated into various process control systems to feed results directly into them. You will be able to optimize production and minimize tolerances on butterfat while reducing re-work, product recalls and avoid penalties.

DA 7250 SD At-line NIR measures the same parameters at-line or in the lab, in only 6 seconds. It uses disposable cups and thus requires no clean-up after analysis. Results are nearly instantaneous and can be used for both production monitoring and verification of finished product quality.

Dairy Powders

Variety of uses



Dairy powders are used as ingredients in many different types of foods. The diversity of uses places stringent specifications – both nutritional and functional. The combination of NIR and the RVA will help you to meet all of your customers needs allowing you to customize products for specific uses – be it a milk powder for pudding production or a whey protein powder for protein supplements.

Improve quality while optimizing profitability

DA 7300 In-line NIR measures moisture, fat, protein and more in real-time in your production process. Use it to optimize drying or verify conformity with specifications. The continuous measurement provides better information on your process than a grab sample does.

The **DA 7250 SD** analyzes all sorts of dairy powders for multiple parameters in just 6 seconds. The speed and ease-of-use allows even your plant operators to analyze all batches.

Measurements of physical properties

The **RVA** provides valuable information as to how powders will perform under various conditions in various matrices. Test the dairy powder as it is and determine properties such as gelling temperature or detect heat damage due to processing or storage. You can also test it as a component within a given formulation, ramp the temperature and mixing speeds up and down, and measure responses to these stressors over time.

Uses and benefits:

- Monitor quality and detect product variation such as gelling temperature
- Detect manufacturing variation
- Save money through moisture content optimization
- Save money by reducing re-work and scrap
- Use the RVA to ensure proper performance at customer site



DA 7300

Milk powder monitoring



Perten Instruments and Delta Instruments

Perten Instruments was founded in 1962 and is a leading supplier of analysis instruments for the food and agricultural industries. We invest heavily in R&D and over the years we have brought countless new products, and several completely new analysis methods to the industry. From the very beginning we have focused on customer support and take our goal of offering the best support in the industry seriously. In 2014 Perten was acquired by PerkinElmer and we are now part of a global company with more than 7,000 employees.

Delta Instruments is a well-established manufacturer of rapid, routine analytical instrumentation for the analysis of milk and milk derivatives. The product portfolio includes milk analyzers for dairy processing industries, payment laboratories, and dairy herd improvement laboratories. Delta was established in 1985 with the goal of supplying cost effective, accurate, and simple-to-use milk analyzers. The original LactoScope and SomaScope instruments were introduced in 1990 and have evolved into highly innovative instruments. Delta became part of Perten Instruments in February 2016.



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*Delta Instruments
is now a part of
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