



**DeltaInstruments**

An Advanced Instruments Company

Over 25 years dedicated to quality assurance in dairy

# CombiScope™ FTIR

## CombiScope™ FTIR

Precision FTIR analyser for unpasteurized milk with integrated high-speed flow cytometer for accurate quantification of somatic cells.



## Delta Instruments

### Benefits

- ▲ Cost effective and proven reliability
- ▲ Outstanding calibration transferability through patented FTIR technology
- ▲ Closed circuit 'Sample Preparation Unit' for the most accurate somatic cell count
- ▲ Easy maintenance due to modular construction
- ▲ Controlled by DataScope™ software platform
- ▲ Double Photomultiplier system with Q-value information on system performance and sample quality
- ▲ Automated cleaning and calibration control
- ▲ CombiScope™ FTIR 400 samples per hour
- ▲ Customized sample racks

### Specifications

#### SOMASCOPE

- ▲ Employed technique: Fluorescence flow cytometry – staining with DAPI
- ▲ Fluid system: Sampler utilising fixed volume loop injection, staining through mixing at room temperature in self-rinsing (rotating) cups, with cells counted in an absolute volume
- ▲ Measuring speed: up to 400 samples per hour
- ▲ Accuracy (Cv \*\*): < 10% relative to Direct Microscopic Somatic Cell Count
- ▲ Repeatability (Cv \*\*): < 6% at  $10^5$  cells/ml  
4% at  $3 \times 10^5$  cells/ml  
< 3% between  $0.4 - 1 \times 10^6$  cells/ml
- ▲ Measuring range: up to  $10^7$  cells/ml
- ▲ Sample volume: typical 2 ml
- ▲ Sample temperature: 40°C
- ▲ Carry-over: typical 0.25%
- ▲ Sample condition: fresh or preserved
- ▲ System dimensions (incl. conveyor belt) (HWD) total:  
41x206x44 cm
- ▲ Total power supply:  
110-230 Volt 50-60 Hz, 900 VA

#### Approvals/Standards

- ▲ Electric Compatibility Directive 89/336/EEC
- ▲ Low Voltage Directive 73/23/EEC
- ▲ IDF 148 A
- ▲ IDF 141 C

\* Please contact Delta Instruments for application notes.

\*\* Coefficient of variation equal to the standard deviation divided by the average value for the sample(s) tested, times 100. Röse Gottlieb for fat, Kjeldahl for protein, HPLC for lactose and Drying Oven Method for total solids

**The CombiScope™ FTIR** is a dedicated analyser designed for herd recording and payment control. This combination of a LactoScope™ and a SomaScope™ is designed for the compositional analysis and somatic cell count of milk, based on Fourier Transform Infrared (FTIR) and flow cytometry respectively.

Dedicated State-of-the-Art Analysers from the number one dairy country in the world. Quality assured by Delta Instruments, The Netherlands.

#### LACTOSCOPE FTIR

- ▲ Employed technique: FTIR transmission spectrophotometry
- ▲ Standard parameters: Fat, Protein, Lactose, Solids
- ▲ Additional parameters (\*):  
Freezing point depression, True protein, Casein, NPN/CU, Citric Acid, Free Fatty Acids (FFA)
- ▲ Measuring speed: 400 samples per hour
- ▲ Repeatability (Cv \*\*): 0.25 %
- ▲ Accuracy typically (Cv \*\*): ≤ 1% (bulk samples from cow milk)
- ▲ Purging efficiency ≥ 99% (programmable correction possible)
- ▲ Sample volume: typical 8 ml
- ▲ Sample temperature: 40°C



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