



**DeltaInstruments**

An Advanced Instruments Company

Over 25 years dedicated to quality assurance in dairy

# CombiScope™

## CombiScope™

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



## Delta Instruments

### Benefits

- ▲ Cost effective and proven reliability
- ▲ Closed circuit 'Sample Preparation Unit' for the most accurate measurements of somatic cells
- ▲ Self-calibrating/controlling concept
- ▲ Controlled by DataScope™ software platform
- ▲ Double Photomultiplier system with Q-value information on system performance and sample quality
- ▲ Easy maintenance due to modular construction
- ▲ Also available in an extremely accurate Fourier Transform Infrared model
- ▲ Freezing point determination (optional) based on infrared and conductivity (after Koops et al.)

### Versions

- ▲ CombiScope™ Filter 200 200 samples per hour
- ▲ CombiScope™ Filter 400 400 samples per hour

### 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: 200/400 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  $0.5 - 1 \times 10^6$  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 (HWD) total: 41x206x44 cm
- ▲ Total power supply: 110-230 Volt 50-60 Hz, 850 VA

#### LACTOSCOPE

- ▲ Analytical range:  
Fat 0-20%  
Protein 0-10%  
Lactose 0-20%  
Total Solids 0-50%
- ▲ Repeatability in general (Cv\*):  $\leq 0.25\%$
- ▲ Accuracy typically (Cv\*):  $\leq 1\%$  (bulk samples from cow milk)
- ▲ Sample volume: Typical 8 ml
- ▲ Sample temperature: 40°C
- ▲ Sample transfer error: < 0.5 % relative (8 ml) without correction
- ▲ Data handling: RS 232 output port, Printer output port

### Approvals/Standards

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

\* 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, Drying Oven Method for total solids and DMSCC for somatic cell counts.

## The CombiScope™

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 Infrared technology 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.



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