

BacSomatic™

Integrated bacteria and somatic cell count



ANALYTICS BEYOND MEASURE

BacSomatic™ provides rapid hygiene testing of milk. BacSomatic is the first-ever integrated bacteria and somatic cell tester and offers full automation for minimal reagent handling and consistent test results.

Integrated bacteria and somatic cell tester

Automatic and fast alternative to manual assay, providing instant, simultaneous results for individual bacteria and somatic cell count within 9.5 minutes and 1.5 minutes for somatic cell count alone.

More accurate than alternative methods

A fully automated procedure avoids the risk of human error and inconsistency, while ready-to-use reagents in an enclosed bag system, ensure the exact same dosage for every measurement. A sensor in the reagent bag indicates the number of available tests remaining. The unique reagent concept includes control samples for quality assurance and GLP. Online remote monitoring ensures consistent performance and high uptime.

Simple and Flexible to use

Built on a long heritage of FOSS analytical technology and backed by global FOSS support, BacSomatic combines robust performance with a modern interface. Very easy-to-use with intuitive touch-screen operation for smarter money-saving decisions on how to use milk.

Sample types

Raw cow's milk and buffalo milk

Parameters

Individual Bacteria Count (IBC)
Somatic Cell Count (SCC)

Technology

Flow cytometry technology, counting individual bacteria cells and somatic cells. The IBC results can be converted to CFU results. BacSomatic software includes an easy and rapid tool to develop a robust conversion table between IBC and CFU.

Approvals

EURL/Microval
FDA/NCIMS
In compliance with ISO/IDF standards

Specifications

| Feature | Specifications |
|------------------------------|--|
| Analysis time | 9.5 minutes for IBC, 1.5 minutes for SCC |
| Analysis capacity | SCC and IBC: 15 samples/hour IBC only: 15 samples/hour SCC only: 40 samples/hour |
| Sample intake | IBC & SCC: 7.2 ml IBC: 6.4 ml SCC: 2.5 ml |
| Sample temperature | 2 - 42 °C (35.6-107.6 F) (preserved) 2 - 4 degrees °C (non preserved) |
| Sample quality | Raw milk of normal composition and good quality. Unpreserved or preserved with azidiol |
| Carry-over effect | <1% relative, usually <0.5% (uncompensated) IBC and SCC |
| Working factor | IBC: 100 and SCC: 100 |
| Measuring range | IBC: 5,000-20 mill. IBC/ml (approx. 1,500 to 10 mill CFU/ml) SCC: 0-10 mill. cells/ml |
| Performance range | IBC: 10,000 - 10 mill. IBC/ml SCC: 100,000 - 1.5 mill. cells/ml |
| Accuracy | IBC: Typical $S_{y,x} < 0.25$ log units from SPC (standard plate count) SCC: < 10% relative mean difference form Direct Microscopic SCC |
| Reference or anchor method | Standard Plate Count (SPC) EN-ISO 4833-1:2013 |
| Dimensions (w x h x d) | 400 x 400 x 400 mm |
| Weight | 25 kg |
| Space requirements (w x d) | Approx. 600 x 630 mm |
| Power supply | 110 - 240 V AC, 50/60 Hz |
| Power consumption | max 190 VA |
| Water supply for preparation | Purified water (<5 $\mu\text{S}/\text{cm}^3$) The instrument does not require a direct connection to water tap but for chemical preparations ultra pure (de-mineralized water must be available) |
| Waste | Max 1 l |
| Ambient temperature | Ambient temperature 5 - 35 °C (41 - 95 °F) |
| Relative humidity | <93% RH |
| Instrument management | |
| Networking software | FossManager™ |

| Repeatability | | |
|---------------------------------------|-------------------|---------------------------|
| Range (IBC/ μl) | S_r (log-units) | Typical S_r (log units) |
| 10 - 50 | 0.07 | 0.06 |
| 51 - 200 | 0.05 | 0.04 |
| >200 | 0.04 | 0.02 |
| Entire range | 0.05 | |
| Reproducibility (between instruments) | | |
| Range (IBC/ μl) | S_R (log-units) | Typical S_R (log units) |
| 10 - 50 | 0.11 | 0.08 |
| 51 - 200 | 0.07 | 0.06 |
| >200 | 0.06 | 0.04 |

| Repeatability | |
|-----------------------------|-----------|
| Range (SCC/ μl) | CV, % |
| 100 - 299 | 6 |
| 300 - 499 | 4 |
| >500 | 3 |
| Reproducibility | |
| Range (SCC/ μl) | S_R , % |
| 100 - 299 | 7 |
| 300 - 499 | 5 |
| >500 | 4 |

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