

# BactoSense TCC

Automated flow cytometer for online monitoring of microbial cell number in drinking water



## Applications

- Flow cytometric determination of total microbial cell count (TCC)
- Online or manual operation
- Determination of the water «fingerprints» and cell size ratios (LNA/HNA)
- Anywhere a fast answer concerning the general microbiological quality of drinking water is required
- Monitoring of raw water quality
- Monitoring of water treatment processes
- Monitoring of water distribution networks, flushing procedures, maintenance etc.
- Monitoring of private and public in-house water installations
- Rapid microbial contamination detection
- Integration into early warning system possible
- Disinfection control
- Research and troubleshooting

## Features

- Fully automated flow cytometer specifically designed for industrial requirements
- Detection of more than 99% of microbial cells
- Result available 20 minutes after sampling
- Faster, cost saving and more realistic results than plating (HPC)
- Flexible settings for threshold values and alarms
- User-friendly operation and maintenance concept
- Safe-to-handle cartridge containing all chemicals and waste
- No handling of chemicals and no samples preparation necessary
- Compact instrument with a small footprint
- Easy system integration thanks to multiple interfaces

## Industries

- Water treatment & distribution
- Food & beverage
- Laboratories & universities
- Pharmaceuticals & cosmetics

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## Innovations with benefits



### Fully automatic system

Sampling – cell staining – measurement – cleaning is performed quickly and fully automatically:

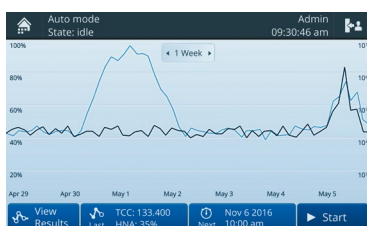
- All manual preparation steps are eliminated, therefore no specially trained staff is required.
- The whole program sequence only takes 30 minutes.
- Allows continuous measurement even in remote locations.



### Simple cartridge concept

All chemicals, including waste, are packed in a hermetically sealed, recyclable cartridge. One cartridge is sufficient for 1'000 measurements:

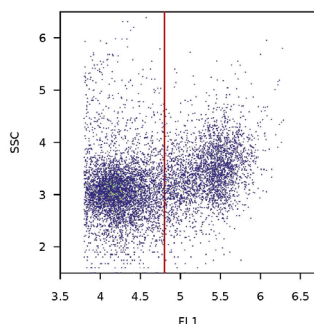
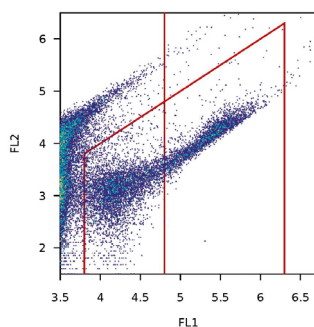
- No need for purchases, logistics, handling of chemicals or waste disposal.
- Exchanging the cartridge is as easy as replacing an ink cartridge in a printer.
- Economic thanks to the use of recyclable cartridges.



### Intelligent operating unit

A large touch screen with colour display serves as a control unit:

- Control unit is integrated in the system.
- An automatic and a manual mode allow simple and clear operation.
- An internal database allows recalling and displaying measurement history.
- Extensive communication options including an integrated web interface.



### User friendly maintenance concept

The instrument is designed to only require one scheduled maintenance per year. This work will be carried out by a qualified SIGRIST representative:

- High availability; maintenance can be planned.
- Transparent cost for maintenance and operation which can be calculated in advance.
- Verification of instrument accuracy can be done by the operator at any time using a reference solution.

## Technical Data

### Instrument data:

Measuring principle:	Flow cytometry
Light source:	Laser diode 488 nm
Fluorescence channels:	525/45 (FL1) 715 LP (FL2)
Side-scatter:	488/10 (SSC)
Measuring span for TCC:	1'000 – 2 Million cells/ml
Detection limit:	100 – 5 Million cells/ml
Lower size detection limit:	100 nm
Microbial parameters determined:	TCC/ml, LNA/ml, HNA/ml, HNAP(%)
Sampling:	Online or manual
Sample volume:	260 µl
Cartridge:	Hermetically sealed system for reagents, cleaning liquids and waste
Cartridge capacity:	Max. 1'000 measurements
Automatic measuring interval:	Minimum 30 minutes, maximum 6 hours
Ambient temperature:	+5 °C .. +35 °C
Ambient humidity:	10 .. 90% RH
Protection degree (electronics compartment):	IP 65
Power supply:	100 – 240 VAC, 50/60 Hz, 1.4 A, IP 67
Power consumption max:	20 W
Dimensions (WxDxH):	350 x 240 x 373 mm
Weight:	14 kg

### Operation:

Display:	WVGA, 7.0"
Operation:	Touchscreen
Data storage:	32GB
Outputs:	2 x 4 .. 20 mA, galvanically separated, 4 x digital outputs, freely configurable
Digital Interfaces:	USB, Ethernet



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