bNovate TECHNOLOGIES

BactoSense™

Automated flow cytometer for online monitoring of bacteria in water

Fast Results available within 20 minutes, analyses up to 48 samples in 24h

Safe No handling of chemicals, all components are in a sealed and recyclable cartridge

Accurate Flow cytometry technology allows precise detection of more than 99.9% of microbial cells

Secure 24/7 monitoring: set a threshold value to get an alarm in time to act accordingly

Reliable Self-check routines, factory calibration and low maintenance

Easy to use Fully automated sample preparation, measurement and cleaning – can be used by anyone

Cost saving Reduce the required number of plating tests (HPC) for a very low total cost of ownership

Universal For process monitoring, lab analysis and field intervention, online or manual sampling, gives TCC, ICC, HNAC/P and LNAC

Compact Built for process or field operations, IP65

Integrated Choice of multiple interfaces

Main applications

Monitoring of raw water quality, water treatment processes, water distribution networks, flushing procedures, etc.

- Disinfection control
- Filtration efficiency
- Distribution network validation
- Reservoir surveillance

Industries

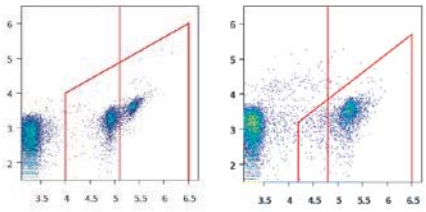
- Water treatment & distribution
- Food & beverage
- Laboratories & universities

Parameters provided

TCC	Total Cell Count
ICC	Intact Cell Count
HNAC	High Nucleic Acid Count
LNAC	Low Nucleic Acid Count
HNAP	High Nucleic Acid Percentage

Specifications

Measuring principle	Flow cytometry
Light source	Laser diode 488nm
Optical detection	Fluorescence: 535/43 (FL1), 715 LP (FL2), Side scatter 488/10 (SSC)
Lower size detection limit	0.1 µm
Measuring range	1'000 - 2 Million cells/ml
Detection limit	100 - 5 Million cells/ml
Accuracy	< 5 % relative
Automatic measuring interval	Minimum 30 minutes, maximum 6 hours
Microbial parameters	TCC/ml, ICC/ml, LNA/ml, HNA/ml, HNAP(%)



Dotplots showing TCC and ICC

Sampling	Online or manual
Sample volume	260 µl sampled, 90 µl for analysis
flow rate (online)	200 - 400 ml/min
chlorine concentration	max. 3 mg/l
turbidity	1 - 10 FTU
pH-value	5 - 12
temperature range	5..40°C
conductivity	0 - 100'000 µs/cm à 20°C

Online sampler / manual sampler

Instrument	Factory calibrated
Display	Touchscreen
Data storage	32 GB
Protection level enclosure	IP 65
Dimensions (WxDxH)	350 × 240 × 373 mm
Weight	14.5 kg
Power supply	100 - 240 VAC, 50/60 Hz, 1.4 A, IP 67
Power consumption	20 W
Ambient temperature	5..30°C
Relative humidity	10 - 90% RH
Cartridge	Hermetically sealed enclosure for reagents, cleaning liquids and waste
Cartridge capacity	Max. 1'000 measurements, 9 months validity

Cartridge

Interface	Digital and analogue
Inputs	4 × digital, freely configurable
Outputs analogue	2 × 0/4 .. 20 mA, galvanically isolated
Outputs digital	4 × digital, freely configurable
Digital interfaces	Sealed USB, Ethernet connections, Modbus

IO box

Accessories	
TCC Refill	Filling and servicing of cartridge - to measure Total Cell Count of up to 1'000 samples
ICC Refill	Filling and servicing of cartridge - to measure Intact Cell Count of up to 1'000 samples
IO box	Input/Output connection box
Cleaning kit	Deep cleaning in case of cross contamination
Validation kit	Easy way to check your instrument after transport or long period out of use
Transport case	For safe transport of your BactoSense

Validation & Cleaning kits

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