

# rqmicro.COUNT

## Take control of water microbiology

Rapid analysis for reliable risk control and monitoring



- ***Legionella* Detection**

- ***E. coli* Detection**

- Quantify viable cells
- Results within 2 hours
- Easy handling

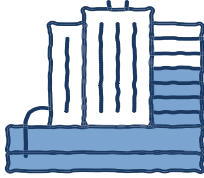
- **Total Bacterial Count**

- Total and viable cells
- Results within 30 minutes
- Single cell counting



# Analysis for various industries and applications

*Legionella, E. coli, total bacteria*



**Industry**



**Facility Management**



**Service Labs**

## Applications:

- Monitor water systems and detect contaminations
- Adjust water, biocide or energy consumption
- Control and optimize water management

## Water types:

- Industrial process water
- Cooling water
- Raw water
- Wastewater
- Drinking water
- Recreational water

## Application areas:

- Automotive and Steel
- Chemistry and Pharma
- Pulp and Paper
- Hotel and Healthcare
- Agriculture
- Energy and Water

## Benefits:

- Reduce health risks and avoid process interruptions
- Offer better services to internal and external customers
- Improve water quality control

*“The kit presents a new technology emerging in environmental monitoring of Legionella with faster time to result, matrix independence, and good sensitivity.”*

Inside Laboratory Management, AOAC International Jan/Feb 2021



License No.: 052002 for  
L.p. SG 1 Detect kit



## rqmicro.COUNT Features



### Rapid & Reliable

- Automated cell isolation and single-cell counting
- Parallel processing of up to 8 samples
- Actionable data based on the analysis of single cells, including viability assessment

### Convenient & Portable

- Weight: 12.9 kg
- Portable device with small footprint
- Maintenance-free cartridge system
- No start-up/shutdown or cleaning cycles
- Self-calibrating optics
- Intuitive operation through a touch screen



### Consistent & Unbiased

- Cartridge system:
  - no sample cross contamination
  - standardized sample purification and analysis
- Predefined instrument settings and analysis protocols

### User-friendly online platform

- Remote access to reports, trends and data analysis
- Easy-to-read dashboard for actionable results
- Email notification for immediate response



## Operators of water systems and water labs benefit from actionable results that enable effective microbiological hygiene management.

Legionella have been recognized as the largest health burden among water pathogens. **Total Cell Count** is an established parameter to assess the total microbiological load of drinking and process water.

**rqmicro.COUNT** enables the on-site and in-lab analysis of bacteria on a single-cell level. The system isolates target cells from samples using immunomagnetic separation and determines the cell concentration of viable cells using flow cytometry. Up to eight samples can be processed in parallel. These high-end technologies have been limited to use in academic, research and development laboratories for the past 40 years and are now available for routine use.

### Science

rqmicro.COUNT technology has been developed after 12 years of research and development at rqmicro (rapid quantitative microbiology) in collaboration with the Swiss Federal Institute of Technology (ETH) and Swiss Federal Institute of Aquatic Science and Technology (Eawag). After more than 100 years, analytical methods in water microbiology have seen little progress and are mainly based on cell cultivation. The method developed by rqmicro does not require cell cultivation due to the specific isolation of target cells and the high-performance optical detection. As a result, the method delivers results on single-cell level within hours instead of days.

### rqmicro method for the quantification of bacteria

#### 1. Labelling

Mark target cells with fluorescent dyes and, depending on the assay, with magnetic particles

#### 2. Target cell isolation

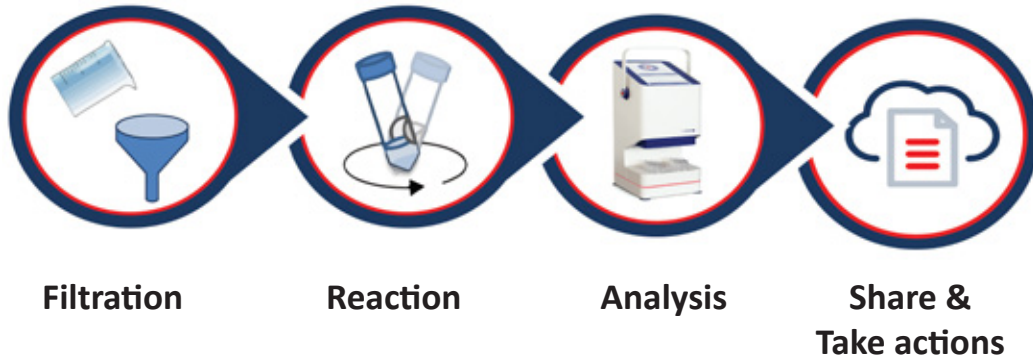
Automated purification of target cells, depending on the assay

#### 3. Single-cell analysis

Flow cytometric counting of viable cells



# Workflow



<b>Legionella</b>	Filter 100 ml water	Add sample to reagent tube ⌚ 60 min sample incubation	⌚ 50 min analysis for 4 samples	Number of viable Legionella cells ↓ Hygiene assessment	<b>Detection:</b> <i>L.p.</i> SG 1 , <i>L.p.</i> SG 1-15 <b>Matrices:</b> Potable and industrial process water <b>LOD:</b> < 50 CFU / 100 mL <b>Hands-on time per sample:</b> 5 min <b>Time to result:</b> 2 hours
<b>E. coli</b>	Filter 100 ml water	Add sample to reagent tube ⌚ 60 min sample incubation	⌚ 90 min analysis for 8 samples	Number of viable <i>E. coli</i> cells ↓ Hygiene assessment	<b>Detection:</b> <i>Escherichia coli</i> <b>Matrices:</b> Drinking and surface water <b>LOD:</b> < 10 CFU / 100 mL <b>Hands-on time per sample:</b> 5 minutes <b>Time to result:</b> 3 hours
<b>Total bacteria</b>	∅	Add 1mL to reagent tube ⌚ 15 min sample incubation at 37°C	⌚ 35 minutes analysis for 8 samples	Number of total bacterial cells ↓ Process assessment	<b>Detection:</b> Total number of bacteria <b>Matrices:</b> Raw, process, drinking water <b>Quantitative working range:</b> 10 <sup>2</sup> to 2x10 <sup>6</sup> cells/ml <b>Hands-on time per sample:</b> 2 min <b>Time to result:</b> 1 hour



# MAKE WATER SAFE

Product number	Product name
1200	rqmicro.COUNT
31010	L.p. SG 1 DETECT Kit (96 tests)
31110	L.p. SG 1-15 DETECT Kit (96 tests)
32010	E. coli Kit (96 tests) (Early Access)
30010	Total Cell Count (TCC) Kit (96 tests)
30020	Intact Cell Count (ICC) Kit (96 tests)



**Contact us or book an online demo presentation to see  
rqmicro.COUNT in action.**

*“The aim of rqmicro is to enable customers to take control over the microbiological situation in water systems. Reliable and quantitative data makes it possible to improve water management and risk control to make water safer and create value for the water industry.”*

Dr. Hans-Anton Keserue, CEO of rqmicro







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