QSGROUP
REAL TIME MONITORING INNOVATORS



COLIMINDER
REAL-TIME MICROBIOLOGICAL — WATER MONITORING

FROM LABORATORY TESTING TO CONTINUOUS PROCESS CONTROL

COLIMINDER
THE ONGOING REVOLUTION



COLIMINDER enables microbiological water control **during the process**, drastically reducing the time between detection and intervention and improving microbiological risk management.

KEY FEATURES

- Results available in approximately 15 minutes
- Microbial enzymatic activity measurement
- Viable bacteria, yeasts, and molds detection
- Continuous and automated monitoring
- Real-time alarm generation
- Control and process systems integration

DISTINCTIVE ELEMENTS

- Measurement of total microbial activity (bulk parameter)
- Independent detection of microorganism cultivability
- Direct correlation with the presence of viable microorganisms
- Elimination of analytical delays, typical of traditional methods

THE ENZYMATIC MEASUREMENT PRINCIPLE

The system measures the metabolic activity of microorganisms through an enzymatic approach, providing a **direct and immediate indication of microbiological contamination.**

HOW IT WORKS

1. Automatic sample collection
2. Addition of a specific reagent that reacts with specific enzymes produced by microorganisms
3. In presence of viable bacteria, these enzymes convert the reagent, generating fluorescence
4. Signal analysis and result generation

METHOD CHARACTERISTICS

- Fluorescence is directly proportional to microbial activity
- Only viable microorganisms are detected
- No dependence on incubation times
- Measurement based on enzymes produced by active cells

VALIDATION

- Possibility of correlation with traditional microbiological methods (CFU)
- Reproducible and comparable results

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TECHNICAL CHARACTERISTICS

Analysis time: ~15 minutes

Full automation: sampling, measurement cleaning, calibration

Monitoring of up to 12 points simultaneously

Direct measurement of total microbial activity

No interference from particles or non-viable cells

Self-monitoring and validatable system

Cloud-based software, no local server required

High stability and repeatability of results

MAIN APPLICATIONS

Process water monitoring:
PW (Purified Water)
WFI (Water for Injection)
UPW (Ultra Pure Water)

24/7 continuous monitoring of water systems

Membrane integrity monitoring

Filtration systems (e.g. activated carbon)

Early identification of biofilm formation

Process microbiological dynamics control

Decision support based on trends and historical data

TECHNICAL NOTE

Support for microbiological control strategies in compliance with GMP guidelines (Annex 1)

OPERATIONAL IMPACT

- Immediate intervention in case of contamination
- Reduction of microbiological process risk
- Optimization of sanitation operations (CIP)
- Reduced use of disinfectants
- Reduced water waste
- Possibility of water reuse when compliant
- Reduced batch release times
- Better control and process traceability

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COLIMINDER

IS A SYSTEM DESIGNED FOR CONTINUOUS OPERATION,
OFFERING HIGH RELIABILITY, ROBUSTNESS,
AND REDUCED MAINTENANCE REQUIREMENTS.

COLIMINDER STANDARD (INDUSTRIAL)

Designed to be installed directly
on the production system
A002480

HOW IT IS USED

Fluorescence is directly proportional
to microbial activity

Only viable microorganisms are detected

No dependence on incubation times

Measurement based on enzymes
produced by active cells

PURPOSE

Continuous control of process water

Real-time monitoring (24/7)

Immediate alarms in case
of contamination

COLIMINDER LABORATORY (INDUSTRIAL SILENT)

Designed for controlled environments
(QC laboratories)
A002481

HOW IT IS USED

The sample is taken to the laboratory

Automatic analysis, but not in-line

PURPOSE

Spot analyses or confirmatory testing

Studies, validations, and comparison
with traditional methods

QC support:
it follows a rapid laboratory analysis logic
(without waiting days for results)

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OTHER AVAILABLE PRODUCTS AND SERVICES



1 COLIMINDER MOBILE

Fully automated system for microbiological water monitoring designed for mobile applications and rapid contamination assessment. The system is based on the ColiMinder Industrial Eco unit mounted on a mobile rack with all components required for field operation. It includes an integrated multisampling module that enables automatic analysis of multiple samples collected from different sampling points.

A002482

2 ACCESSORIES

AUTOSAMPLER MODULE

A002483	Multisampling module up to 10 sample lines
A002489	ISCO autosampler control module
A002499	Autosampler module for 12/24 samples

DISTRIBUTION MODULE

A002486	Sample delivery module – PARIS model
A002487	Sample delivery module – HONG KONG model
A002488	Sample switching module up to 12 lines

ANALOG MODULE

A002490	2-channel 4–20 mA analog data output module

3 INSTALLATION

SOFTWARES

P000421	Modbus protocol configuration for data integration
P000422	API platform configuration for data transfer
P000423	Data platform configuration for new customer
P000424	Configuration of new device on existing API

COMPONENTS

P000425	Start-up package for new customers – 3 months
P000428	Online installation and training – daily rate
P000429	Online installation and training – hourly rate
P000432	Reagent A tubing assembly
P000433	Reagent B tubing assembly
P000434	Sample intake line assembly

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4 SOFTWARE LICENSE & TECHNICAL DOC

A002497	Annual software license for online data monitoring

5 CORRECTIVE MAINTENANCE

FAULT DIAGNOSIS

P000430	Scientific consulting and research – daily rate
P000431	Scientific consulting and research – hourly rate

6 ISO 9001 CALIBRATION

T000407	Calibration and maintenance

7 PRESSURE DIFFUSER

A002484	Sample depressurization unit – 1 line
A002485	Sample depressurization unit – 2 lines

8 PREVENTIVE MAINTENANCE

P000426	Online assistance – annual remote support
P000427	Annual remote device health check

9 REAGENTS

A002491	Total Activity reagent kit – 250 measurements
A002493	Total Activity reagent kit – 500 measurements
A002494	Total Activity reagent kit – 1000 measurements

10 SPARE PARTS

A002492	Standard spare parts kit
A002495	Assembled internal tubing kit
A002496	Peristaltic pump tube
A002498	Rinsing water tubing kit I
A002500	Rinsing water tubing kit II
A002501	Multisampler tubing kit
A002502	Liquid waste outlet
A002503	WH container tubing assembly
A002504	Complete WH container valve
A002505	Liquid waste discharge tubing

*Transport, rental and warranty extention services are also available.

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TRADITIONAL METHODS VS COLIMINDER

TRADITIONAL METHOD	COLIMINDER
Response time: from 1 to 5 days	Response time: ~15 minutes
Not representative results of the actual state at the time of reading	Real-time results reflecting actual microbiological conditions
Detection limited to cutivable migroorganisms	Detection independent of microorganism cultivability
No continuous monitoring	Continuous and automated monitoring (24/7)
High use of operational resources and materials	Reduced operational effort through full automation
Inability to intervene promptly in the event of contamination	Immediate alarm and rapid intervention capability
—	Direct measurement of total microbial activity (bulk parameter)
—	Detection of viable microorganisms (bacteria, yeasts, molds)
—	No dependence on incubation time
—	Integration with process control systems
—	High repeatability and correlation with traditional methods (CFU)

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