

# Colifast® At-Line Microbial Monitor

Rapid Detection for  
Rapid Decisions



**COLIFAST**

## COLIFAST AT-LINE MICROBIAL MONITOR

Assessing microbial water quality is a central function in total water management. The traditional methods for detecting coliforms in water need 18-24 hours which mostly gives historical information.

The Colifast At-Line Microbial monitor, CALM, is an automated early warning system for rapid and systematic quality monitoring.

Combining an analyser and advanced custom software, the CALM provides water quality data for thermotolerant coliforms/*E.coli* and total coliforms. This early warning system offers rapid results for earlier hazard assessment as part of an integrated emergency response programme, or for routine microbial monitoring. With increasing regulatory requirements, and customer demand for quality service while minimising cost, the CALM creates value through earlier results for faster operational decisions.

Whether evaluating source water quality in supply networks or monitoring waters for environmental management, this system provides results earlier to enhance performance, reduce response times and improve services.

## APPLICATIONS

- Source water / raw water quality
- Environmental / recreational water
- Industrial process water
- Effluents
- Water plant (Operations, QC)
- Distribution system (finished water)

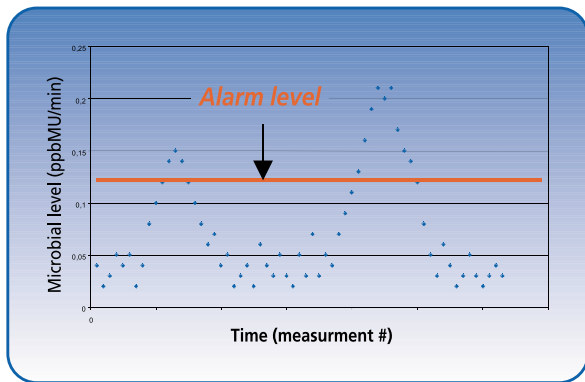
## COLIFAST AT-LINE MICROBIAL MONITOR PROCEDURE

1. About once a week the incubator blocks are filled with test vials containing growth medium (prefilled).
2. After loading the prefilled vials only hit "Start" to start the analyses.
3. CALM automatically distributes water sample into the vials at programmed intervals and analyses the samples.
4. The system automatically sends the results directly to the control room/laboratory via an analogue signal.



## BENEFITS AND SYSTEM FEATURES

- Rapid results. Results obtained within 2-12 hours.
- Automated analyses  $\Rightarrow$  Easy-to-use.
- Early Warning and Quantitation. Depending on level of bacteria in the water there are two main methods to use:
  1. Rate of MU-production as an indicator of fecal contamination
    - High levels of bacteria
    - Typical sample = 5 or 10 ml
    - $\Rightarrow$  new sample every 3 hours (max 76 samples between services).
    - Time to result  $\leq$  2 hours
    - Results reported as rate of MU-production ( $\Delta$  ppb/min)
  2. MPN (most probable number) for coliform/microbial growth:
    - Low levels of bacteria
    - Typical sample volume = 100 ml distributed in 4-7 test vials
    - Time to result  $\leq$  12 hours
    - Results reported as MPN numbers per sample volume (100 ml)
    - Detection limit: 1 coliform in test volume
- Remote Warning System for earlier operational decision.
- User defined alarm level. The user can set an alarm level according to the limit for taking action.



- More frequent sampling and better safety. Automatic sampling allows more frequent analyses without increasing labor. More frequent analysis ensure a better control with the water, and safety for the public.
- Time saving = cost saving. Rapid results for rapid decisions reduces release time of product.

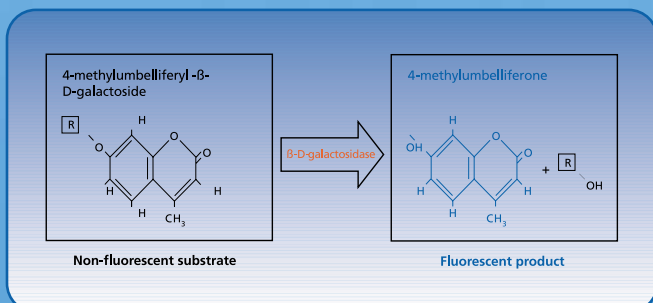
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## DETECTION PRINCIPLE

The patented Colifast technology combines a selective growth medium with an automated analyser. The growth medium for coliforms and thermotolerant coliforms includes the substrate 4-methylumbelliferone- $\beta$ -D-galactoside, which fluoresces after hydrolysis by the  $\beta$ -galactosidase enzyme present in coliform bacteria. The reaction is illustrated in the figure below.

Differential incubation temperatures of 44-44.5 °C and 35-37 °C are used to distinguish between thermotolerant coliforms and total coliforms respectively. Inhibitors suppress the growth of nontarget organisms. The fluorescence is monitored by the CALM. Advanced software controls the testing process and subsequent data handling and reporting. Time to detect bacteria is from 1-12 hours, depending on level of bacteria in the water sample.



## TECHNICAL SPECIFICATIONS

### Power

- Electrical input: 110-240 VAC 50/60 Hz
- Power consumption: 60 watts

### Environmental

- Temperature: 10-30 °C
- Relative humidity: <90%

### Computer requirements

- Computer: IBM compatible
- Processor/Speed: Pentium 266 or faster
- Memory (RAM): 64 MB
- Operating system: Windows 95/98/NT/2000
- Com ports: Available RS-232
- Disk drive: CD-Rom drive



Please contact Colifast® for further information and technical notes:

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