



# **LEGIOLAB® onsite analyzer: Working Pack**

Reference:  
*220-ULI-CT-10*

## **Leaflet**

Working pack used in the instrument LEGIOLAB® onsite analyzer (Ref. 220-ULI-CT) for automated rapid detection of *Legionella spp* in water samples, based on the filtration and analysis by combining immunomagnetic capture and enzyme immunoassay (CEIA).

## ÍNDICE

I. INTRODUCTION

II. TECHNOLOGY BEHIND THE LEGIOLAB® onsite analyzer

III. KIT REAGENTS AND COMPONENTS

IV. EXPIRY AND STORAGE

V. MATERIAL REQUIRED BUT NOT PROVIDED

VI. CAUTIONS AND RECOMMENDATIONS

VII. PROTOCOL

A. LOADING OF CARTRIDGES

B. INSTALLATION OF FILTERS

C. INSTALLATION OF REAGENTS BOTTLES

D. CHANGING OF PIPETTE TIP

E. CHANGING OF CUVETTE

F. REPLACEMENT OF RUBBISH BAGS

G. REPLACEMENT OF COMPONENTS

H. COMMISSIONING

I. RESULTS AND INTERPRETATION OF TEST

VIII. TEST CHARACTERISTICS AND VALIDATION

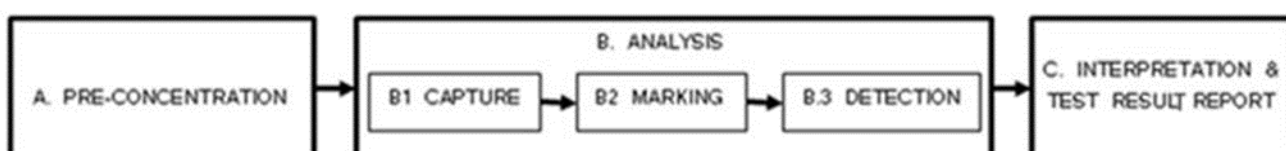
IX. REFERENCES

## I. INTRODUCTION

**LEGIOLAB® onsite analyzer (Cat. No. 220-ULI-CT)** is an automatic equipment for onsite determination of *Legionella* spp in tap, natural and industrial water. The equipment performs the taking and filtration of the sample, and its rapid 1 hour- assay, which combines magnetic immune capture and enzyme-immunoassay (CEIA) with a colorimetric enzyme reaction.

## II. TECHNOLOGY BEHIND THE LEGIOLAB® onsite analyzer

The original water sample is concentrated by filtration, and this prepared sample is eluted and dispensed in the well of a pre-loaded reagents cartridge, to be analyzed by the CEIA method in the equipment. A suspension of magnetic particles that bind to *Legionella* is added. If *Legionella* cells are present in the prepared sample, they will bind to the antibodies immobilized on magnetic particles to form complex bacteria / particle. As these complexes may be separated by a magnet, they are easily washed and resuspended. The complexes are incubated with an anti-*Legionella* antibody conjugated with an enzyme, to form labeled complexes. After washing the *Legionella* / particle complexes are visualized colorimetrically, when the enzyme substrates are added. This test includes the following 3 main stages:



## III. KIT REAGENTS AND COMPONENTS

The reference **220-ULI-CT-10 (10 test)** contains the items listed in the following table:

Reagent/component	ID	Amount
Filter	220-ULI-CT-10F	10 u
Reagents cartridge	220-ULI-CT-10R	10 u
Photometer cuvette	220-ULI-CT-1C	1 u
Pipette tip	220-ULI-CT-1T	1 u
Reagents bottles (L0, D0, C0)	220-ULI-CT-3B	3 u
Gloves	220-ULI-CT-1G	2 u
Rubbish bags	220-ULI-CT-2W	2 u



220-ULI-CT-10R



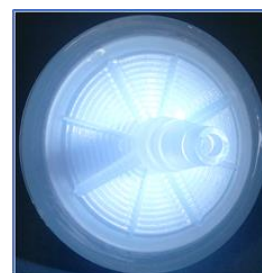
220-ULI-CT-3B



220-ULI-CT-1C



220-ULI-CT-1T



220-ULI-CT-10F

## IV. EXPIRY AND STORAGE

Once received, reagents cartridges (220-ULI-CT-10R) are stored between +2°C and +8°C, preferably at +4°C. Check that all cartridges are properly sealed and not damaged. The expiration of the reagents, properly stored, is **5 months from the date of manufacture**. All reagents include their own batch number and storage conditions. These conditions are also found in the packaging. In addition, the protocol includes code, lot number and expiration date, ensuring the traceability of all reagents. You can ask the manufacturer for a certificate of analysis.

## V. MATERIAL REQUIRED BUT NOT PROVIDED

The equipment is completely autonomous with the reagents and components provided in one pack.

## VI. CAUTIONS AND RECOMMENDATIONS

- ◆ Place the unit in a location where it can be easily accessed for normal operation and maintenance, and where you can easily see the readings.
- ◆ Check that the sample reaches the unit.
- ◆ This test is designed for the following matrices: drinking, natural and industrial water.
- ◆ The product is safe and stable under normal conditions of use. Avoid eye contact. If splashes may occur, wear safety goggles.
- ◆ Avoid skin contact using gloves. (See Safety Sheet).
- ◆ The product must be disposed of in accordance with current regulations. Dispose of empty containers through the recycling or waste disposal process.
- ◆ Not use reagents after the expiry date.
- ◆ **Do not use leftover reagents. Do not mix batches.**

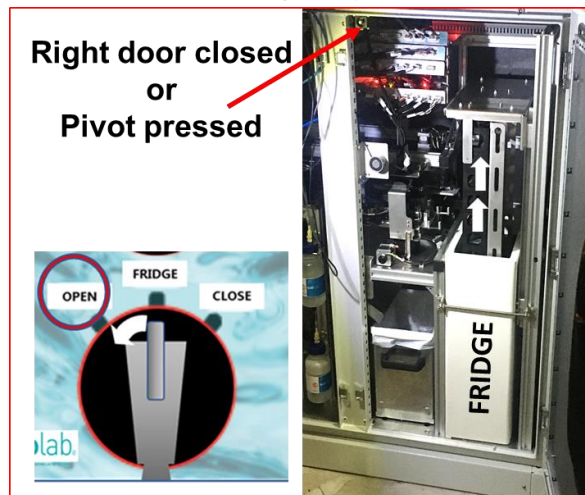
## VII. PROTOCOL

For complete instructions, refer to the User Manual. It is recommended to read this protocol carefully before starting the test.

- ◆ Make sure that the Legiolab® receives sample and power supply.
- ◆ Make sure the Legiolab® is in operation and in a state of rest (don't interrupt an ongoing analysis).

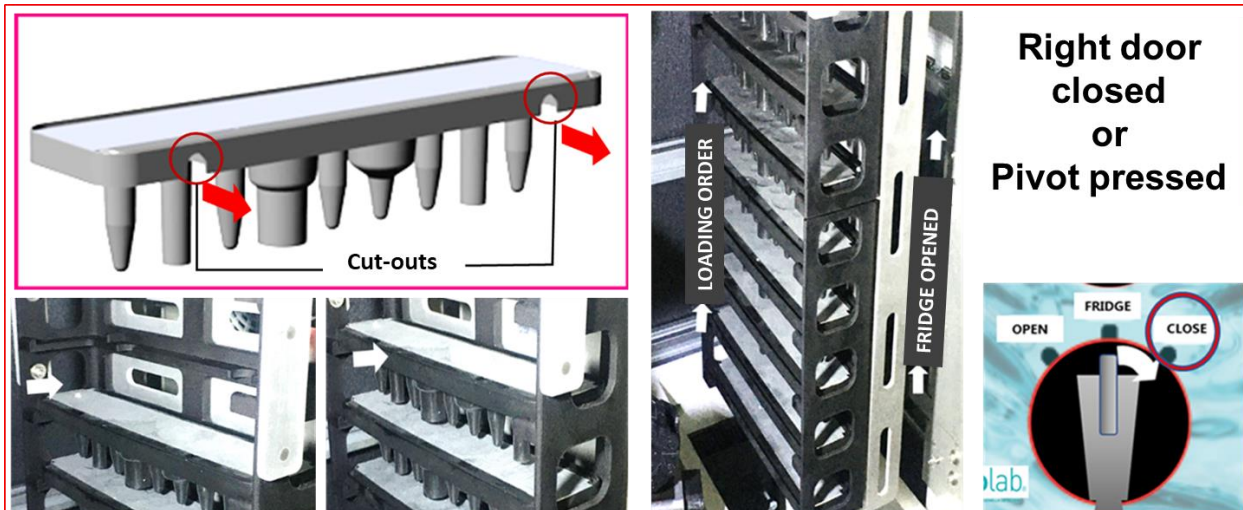
### A. Loading of cartridges

1. Open the fridge (selector button on the control panel)



2. Always load the 10 cartridges **from top to bottom**. Insert each cartridge, so their cut-outs are located in the inside of the fridge.

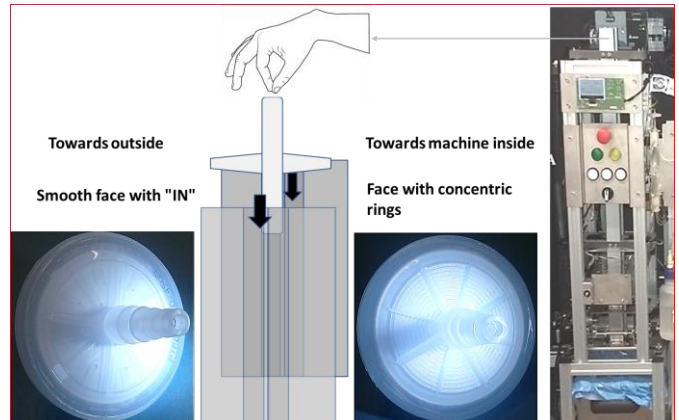
3. Close the fridge (selector button on the control panel).



## **B. Installation of filters**

1. Remove each filter from its bag and release it into the lane.

Note: Orient filters with concentric ring side to the right (the machine)



## **C. Installation of reagents bottles**

1. Open the reagent set LEGIOLAB® onsite analyzer: L0, C0, D0.

2. Put the reagent bottles in position

A. Remove the cap from the reagent bottles.

B. Place the reagent bottle opening under the siphons in the bottle. (the bottle to its correct position: see the label)

C. Lift the bottle until the opening reaches the siphon cap of the bottle.

D. Screw the bottle.

**Caution:** Do not refill reagent bottles. Do not mix or add reagent from other bottles. Use only original LEGIOLAB reagents® onsite analyzer.



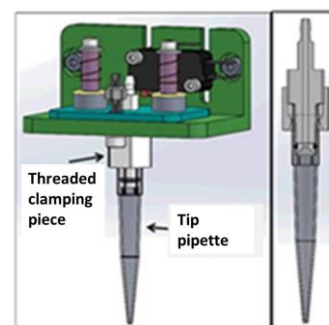
## **D. Changing of pipette tip**

1. Block the module by inserting an allen or similar into the front orifice.

2. Unscrew the clamping piece from the tip and slide it down, without releasing it, until you extract it. Gently pull the used tip.

3. Fit the new tip and secure it with the threaded clamping piece.

4. Remove the blockage of the module.

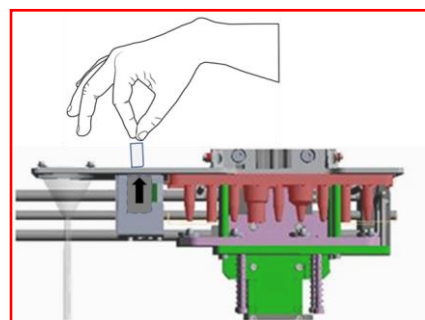


## **E. Changing of cuvette**

1. Remove the old cuvette from its compartment on the photometer.

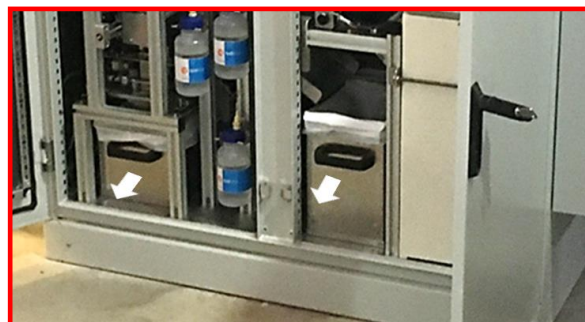
2. Insert the new cuvette, trying to fill it at approx. 1/3 with water or reagent C0.

Note. - check that the cuvette is clean, not scratched, and avoid soiling it.



## **F. Replacement of rubbish bags**

Remove the containers and remove the bags.  
Place two new bags.



## **G. Replacement of components**

LEGIOLAB® onsite analyzer components that are not part of the replacement kit provided should only be replaced by duly qualified technicians.

## **H. Commissioning**

Follow the instructions in the User Manual.

## **I. Results and interpretation of test**

The result of the measurement performed during the analysis sequence will be displayed on the control panel (screen). are reported as equivalent colony forming units (CFUeq), that is, the number of colony forming units (CFUs) that would have been obtained using the conventional culture method in the absence of an interfering microbiota and all Legionella cells are free and available.

**The test result is considered POSITIVE** if the Transmittance (T) value is less than or equal to 0.6292. The result is reported as Detected and the concentration is set by referring the CFUeq reading to the original sample filtered volume.

**The test result is considered NEGATIVE** if the Transmittance (T) value is greater than 0.6292. The result is reported as Undetected.

**Do not reuse discarded cartridges.**

## **VIII. TEST CHARACTERISTICS AND VALIDATION**

Legiolab® performs a quick test for the detection of Legionella spp. in water samples, on the Legipid® Legionella Fast Detection kit, validated by the AOAC-Research Institute in the Performance Tested Method Program for drinking, natural and industrial water (Certificate nº 111101). With optical reading the limit of quantification of Legiolab® 100 CFUeq/volume examined.

## **IX. REFERENCES**

1. International Organization for Standardization. 1998ISO 11731:1998. Water quality - Detection and enumeration of *Legionella*.
2. Albalat GR, Broch BB, Bono MJ. Method modification of the Legipid® Legionella fast detection test kit. *J AOAC Int.* 2014;97(5):1403-1409. doi:10.5740/jaoacint.14-029.
3. Díaz-Flores Á, Montero JC, Castro FJ, et al. Comparing methods of determining Legionella spp. in complex water matrices. *BMC Microbiol.* 2015;15:91. Published 2015 Apr 29. doi:10.1186/s12866-015-0423-75.
4. Rodríguez G, Solís I, Jiménez M, Sabater M, Martínez MA, Bedrina B, et al. Automatic Early Warning System to Detect and Quantify Legionella Species in Cooling Towers. *J Bacteriol Mycol.* 2018; 5(3): 1071.

**User warning:** Use this product only for environmental analysis

<p><b>Lot number cartridges:</b></p>   <p><b>Expiry date from manufacturing :</b></p>	<p>For <b>Technical assistance</b> contact: Biótica, Bioquímica Analítica, S.L. Parque Científico y Tecnológico, Universidad Jaime I Edif. Espaitec 2, ground floor, lab 2</p> <p>12071 – Castellón, Spain www.biotica.es info@biotica.es Tel.: +34 964108131 Fax: +34 964737790</p>	
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