

# **Filterpid Fast Filtration**

Catalog number: 211-10-00

## **Package insert**

Filtration device to concentrate the organisms in water samples and to obtain prepared samples to be analysed by Legipid®, Cleanpid® or others technics.

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## I. INTRODUCTION

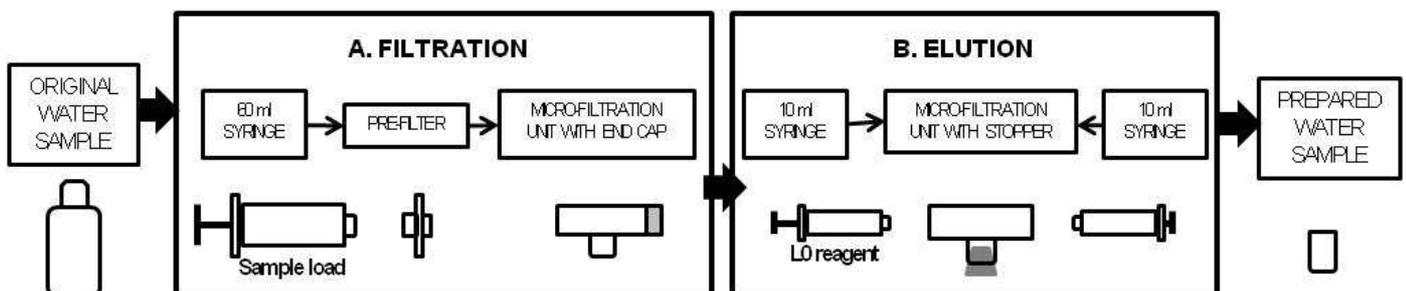
The most important application for conventional membrane filtration in microbiological laboratories remains water testing, based on culturing microorganisms from the test sample. Typically, samples are filtered through a membrane filter and the filters are then transferred to the surface of agar plates containing prescribed media. The filters can also be deposited into a flask to be eluted by shaking. However, the method used for re-suspension of organisms after membrane filtration may result in considerable loss of organisms. Moreover, culture methods have long incubation times. In this context, a good solution consists in combining an easy filtration method with a fast detection method of microorganisms to reduce the total time of the analysis. Filterpid provides a filtration device capable of being rapidly prepared by utilizing a cartridge of hollow fibers, which can easily be assembled even by unqualified personnel.

Some of the main advantages using filterpid:

- ◆ Avoids the use of vacuum pumps
- ◆ Avoids the need to autoclave
- ◆ Eliminates centrifugation
- ◆ Reduces working time
- ◆ Improves recovery rates
- ◆ Increases filtration throughput
- ◆ Allows an easy elution in the recovery step, prior to analysis by Legipid® or Cleanpid®

## II. THE Filterpid TECHNOLOGY

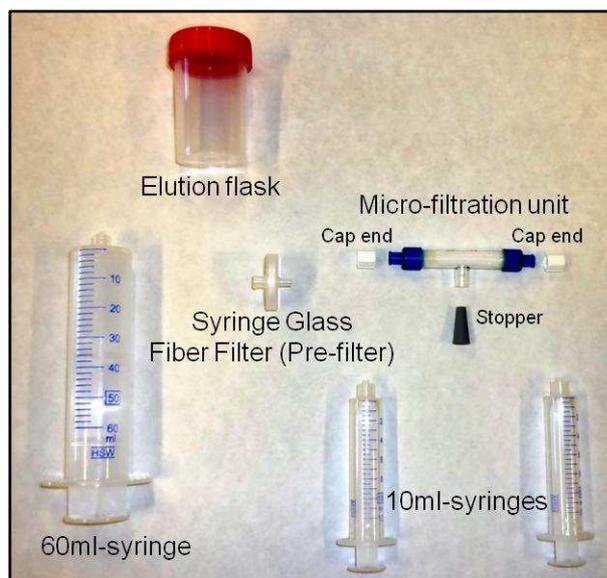
Filterpid (Cat. No. 211-10-00) is an easy and complete solution to prepare a sample to be analysed by rapid test. It shows superior separation performance of the *Legionella* organisms from the original water samples. Original water includes pure water, river water, tap water, and industrial water. The assembled system comprises a 60 ml-syringe connected to a pre-filter (syringe glass fiber filter), so a water-flux remarkably larger than that of the conventional filtration method. In turn, the prefilter is connected to a hollow fiber filter (0.2µm nominal pore size) in a compact cartridge (the micro-filtration unit) with an end cap. Filterpid can be used without any pump. Original water sample pass through the centre of the hollow fibers by manually pushing the 60 ml-syringe (positive pressure). The bacteria are then retained inside the hollow fiber filter (retentate). Micro-filtration unit is connected to two 10ml-syringes each one at one end of the unit. Following the protocol, bacteria are eluted by a back-flushing mechanism with a stabilizing agent L0 (not supplied). The final suspension is the prepared sample that can be analysed by the Legipid® test or Cleanpid® test. This system includes the following 2 main steps:



## III. KIT REAGENTS AND COMPONENTS

Filterpid kit is provided as a bag including all the components necessary for 1 filtration (reference ID 211-10-00). Filterpid can be used as a step prior to Legipid® Legionella Fast Detection test (reference ID 311-10-00) or Cleanpid® Easy Purification Kit (reference ID 611-10-00). Then, diluent L0 (reference ID 311-10-L0) is supplied with the Legipid® test or can be acquired separately. The reference ID 211-10-00 contains the components indicated in the following table.

Reference ID	Component	Quantity Provided (unit)
311-10-FE	Elution flask	1
211-10-SFV	Syringe Glass Fiber Filter	1
211-10-CT40-LL	Micro-filtration unit	1
211-10-SLL10	10 ml -syringe (Luer Lock connection)	2
211-10-SLL50	60 ml-syringe (Luer Lock connection)	1
211-10-STP	Stopper	1
211-10-FSTP	Cap end	2



#### IV. STORAGE CONDITIONS

Filterpid must be stored at room temperature.

#### V. MATERIAL REQUIRED BUT NOT SUPPLIED

Graduated container for the filtration step.

Filterpid (Cat. No. 211-10-00) is provided with a filtration manual. Either a syringe or peristaltic pump (AC/DC, around 200 rpm) can drive the original water sample through the fiber lumen of the micro-filtration unit. Finally, micro-filtration unit can also be connected directly to the waterworks by an adapter.

#### VI. PRECAUTIONS AND RECOMMENDATIONS FOR BEST RESULTS

- ◆ The performance of the filtration depends on the correct execution of the protocol.
- ◆ Check that the components are correctly assembled, based on female/male luer connections.
- ◆ If you use a pump to drive the water sample, check that pressure does not exceed 2 kg/cm<sup>2</sup>.

#### VII. PROTOCOL

Before starting please check all the components have been supplied. Material is not reusable.

##### A. Filtration step

1. Remove one unit of the micro-filtration device from packaging.
2. Connect the pre-filter (male luer) to the pointed end of the unit (female luer)

3. Load the 60ml-syringe with original water sample.
5. Place T-piece section of the micro-filtration unit on a container.
6. Push the water sample through the micro-filtration unit.
7. Disconnect the empty syringe from the pre-filter.
8. Complete original water sample by repeating step 3 to 7.
9. Push only air after total water sample is filtered.
10. Disassemble the 60ml-syringe and pre-filter from the unit(\*)

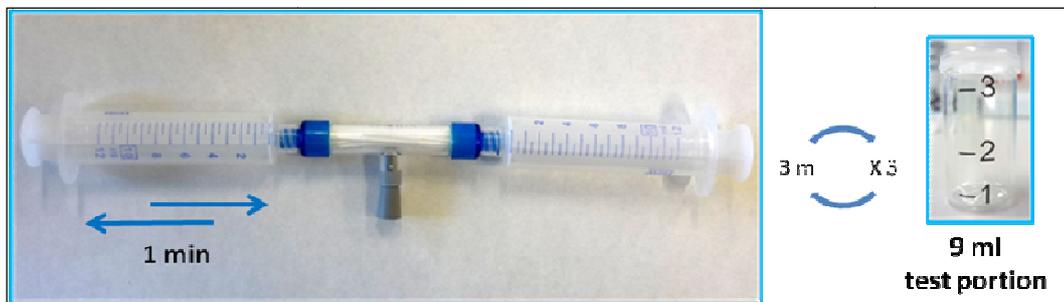
4. Connect the filled syringe (male luer lock) to pre-filter (female luer)



(\*) If the cells retained are not going to be eluted immediately, put the lid to the end point with the stopper, fill the unit with L0, and store at 4°C until use.

### B. Elution step

1. Add 10 ml of the L0 reagent into graduated elution flask.
2. Remove the end cap from the microfiltration unit.
3. Connect one empty 10ml-syringe to microfiltration unit.
4. Take 3 ml of L0-reagent with the other 10ml-syringe.
5. Connect the filled 10ml-syringe elution to the other end of the micro-filtration unit.
6. Close filtrate exit point (T-piece) with a stopper (see figure below).
7. Push the liquid through the micro-filtration unit until the liquid passes into the second 10ml-syringe.
8. Pull back the first 10ml-syringe to recover the liquid.
9. Repeat steps 7 and 8 along 1 minute time
10. Remove a 10ml-syringe from the micro-filtration unit and then push the volume into the cuvette (\*\*)
11. Repeat two more times with 3 ml each time, completing a final volume of 9 ml.



(\*\*) cuvette (reference ID 311-10-CB) is supplied with the Legipid<sup>®</sup> test.

Prepared water sample is ready to be tested by Legipid<sup>®</sup> or Cleanpid<sup>®</sup>.

**India Contact:**

**Life Technologies (India) Pvt. Ltd.**

306, Aggarwal City Mall, Road No. 44, Pitampura, Delhi – 110034, India

Mobile: +91-98105-21400, Tel: +91-11-42208000, 8111, 8222, Fax: +91-11-42208444

Email: [customerservice@lifetechindia.com](mailto:customerservice@lifetechindia.com), [www.atzlabs.com](http://www.atzlabs.com) ; [www.lifetechindia.com](http://www.lifetechindia.com)