

Lovibond® Water Testing Tintometer® Group



Field Test Kit



Legionella pneumophila serogroup 1 in Water

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Instruction Manual
Part Number: 56B006001

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Overview

The *Legionella* Field Test Kit is for detecting Legionella in a water sample. It is ideal for field and a variety of industrial applications.

The test operates via a Lateral Flow Immuno-Chromatographic Assay (LFICA).

Each Systems Test Kit contains the following:

- 10 Individually foil -wrapped tests -- each contains an exact volume pipette
- 10 Sterile Sample Bags
- Instructions for use

This test is intended for analysis of water samples only. **This product is not intended for clinical or medical diagnostic use.**

The product is intended to be used as part of an overall water treatment, management, and risk reduction approach and should NOT be used as the sole method for assessing risks associated with Legionella bacteria.

Disposal

Used test products may be contaminated with bacteria and should be disposed of in accordance to local laws. The test cannot be reused or recycled. The packaging materials and this instruction manual can be recycled.

Test Operating Limits

The test has been evaluated under laboratory conditions to operate effectively within the limits described in the table below. Use outside of these tolerances requires the use of a Positive and Negative Control Kit (call for details).

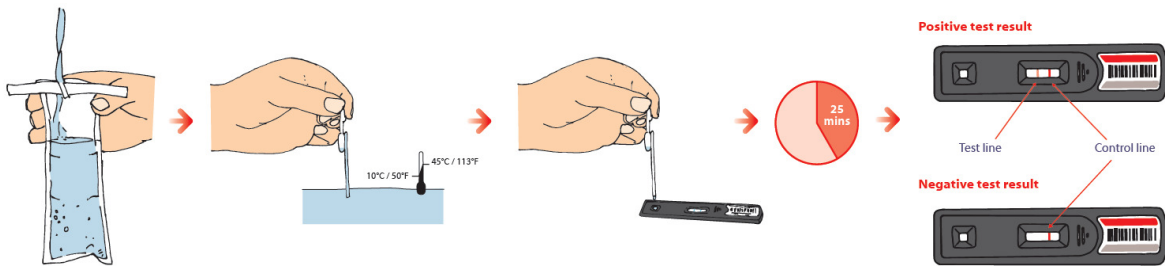
Test Parameter / Unit	Lower Limit	Upper Limit
Sample Temperature	10°C / 50°F	45°C / 113°F
Test Temperature	10°C / 50°F	45°C / 113°F
pH	5	10
Free Chlorine (ppm)	0	5

A wide range of non-oxidizing biocides and biocidal dispersants have been checked for cross reaction and interference with the test. **This test should not be used on systems treated with biguanide or THPS based biocides!**

Performance of the test with samples other than those taken from Cooling Towers, Domestic Hot & Cold water systems and Whirlpool spas has not been established.

Storage

The test is intended for storage at room temperature. Do Not Freeze. When stored correctly, the test will continue to operate within design specifications, until the specified expiration date. **Do not use the test after the stated expiration date specified on the packaging, Do not use any test where the foil packaging is damaged.**



Take the Sample

Identify the water system to be sampled and an appropriate sample point from which to obtain a representative sample. Large systems may be to be sampled and tested at multiple locations.

Avoid generating aerosols when collecting or handling samples.

Open the provided sample bags by tearing the perforation just above the white strip. Open the sample bag by grasping and pulling on the tab on each side of the bag.

Add system water to the bag. The bag may have condensation inside before use, depending on storage conditions.

Add Sample to the Test Strip

Remove the test from its foil wrapping, and place the test on a flat surface.

The foil wrapping should not be opened until immediately prior to running the test. If the foil is opened and then the test is not performed within 60 minutes, discard the test.

Before use, the test should have 2 pale blue lines across the result window. If these are not present, notify your supplier to replace the test kit. Take the pipette from the foil wrapping.

Place the syringe over the small sample window at the end of the test strip, and press the plunger so that 0.1 ml of sample is dispensed onto the test strip. **Record the time.**

Read the Test Strip

Leave the test strip sitting on a flat surface during incubation. For optimum results the test results should be performed at room temperature. **After waiting 25 minutes, examine the test strip** in good lighting. If the test is not read within 60 minutes of adding the water sample, it should be discarded and a new test should be run. The test should show one of the following results on the large result window on the test strip:

Negative Result: One (1) RED line across the result window at the end furthest from the sample window.

Positive Result: Two (2) RED lines across the result window. The red line closest to the sample window may be very faint (pale pink). Any distinct line, no matter how faint, should be counted as positive.

Invalid Result: If the test does not show any red lines; or if it only shows a line at the end closest to the sample window; or if the line furthest from the sample window is very faint, then the test is invalid. Repeat the test and notify your supplier for technical support.

Interpreting the Results

Positive Results:

A positive test result indicates that *Legionella pneumophila* serogroup 1 bacteria were present in the sample above the detection limit.

The test does not differentiate between viable (living) and non-viable (dead) organisms. The test will detect viable but non-culturable bacteria which are not detectable by traditional laboratory techniques. A positive result does not necessarily mean that viable bacteria are present.

When a positive result is observed, seek advice from your risk management plan, or water treatment specialist.

Negative Results:

A negative test result indicates that *Legionella pneumophila* serogroup 1 bacteria were not detected or the number of bacteria in the sample were below the detection limit.

A negative result does not necessarily mean that *Legionella* bacteria are absent.

A negative result does not mean that the system is completely free from risks associated with *Legionella* bacteria. The test only detects *Legionella pneumophila* serogroup 1. The test does not detect the presence of other *Legionella* species or serogroups.

Specificity

The test has been shown to be non-reactive with the following bacteria (at 1×10^8 organisms per sample):

Acinetobacter calcoaceticus,
Aeromonas hydrophila subsp.
hydrophila, *Bacillus subtilis*,
Burkholderia cepacia, *Citrobacter*
freudii, *Citrobacter koseri*,
Escherichia coli, *Enterobacter*
cloacae, *Klebsiella oxytoca*, *Pseu-*
domonas

aeruginosa, *Pseudomonas*
fluorescens, *Pseudomonas putida*,
Pseudomonas stutzeri,
Ralstonia pickettii, *Raoultella*
terrigena, *Streptococcus pyro-*
genes, *Yersinia ruckeri*

Staphylococcus aureus and *Legionella pneumophila* serogroups 4 & 7 in concentrations higher than 1×10^8 organisms per sample may interfere with test results in negative samples. These concentrations are higher than would be expected to be present in normal water samples.

Limit of Detection

The visual detection limit of the test has been determined under laboratory conditions to be 100 CFU/ml.