

## Hydrosense Ultra *Legionella* Complete Kit Data Sheet

This kit is designed to test for *Legionella* in water and biofilms in risk areas identified by CDC\* such as:

- Domestic and industrial hot and cold water systems.
- Cooling towers.
- Decorative fountains, hot tubs and pools.
- Sinks and showers.
- Mistifiers, sprinklers, air washers, humidifiers and more.



\*The Centers for Disease Control and Prevention (CDC) is a federal agency that conducts and supports health promotion, prevention and preparedness activities in the United States, with the aim of improving overall public health.

Hydrosense Ultra *Legionella* Complete Kit product code 100202

The kit contains all the items required to perform 4 tests (2 water and 2 biofilm tests).

- The test detects *Legionella pneumophila* serogroup 1 (LpSG1).
- With filtration step, the sensitivity of the water test is 100 CFU/L. The sensitivity of the biofilm test is 200 CFU/ swabbed area.
- The test detects Viable-But-Non-Culturable Bacteria and *Legionella* SG1 in all stages of its life-cycle.
- Provides straightforward results, on-site, within 25–35 minutes.
- The kit includes pre-filled syringes and vials containing recovery buffer. No need to measure or dilute solutions.
- The test is simple to use, no interpretation and helps to minimise delays and downtime.
- Regular use increases confidence in *Legionella* controls.
- The smartphone App reader provides independent record of results (Download Hydrosense App for free from the App store or Play Store).

Hydrosense uses Lateral Flow Immunochromatographic Assay (LFICA) technology to detect the presence of cell surface antigens from *Legionella* bacteria. It uses *Legionella* antibodies, tagged with red nanoparticles, which bind to any bacteria found in the sample and make them visible on a line on the device. The test works just like a pregnancy test - one line indicates a negative result and two lines indicate a positive result.

Bacteria detected	<i>Legionella pneumophila</i> serogroup 1											
Detection method	Lateral flow immunochromatographic assay											
Limit of detection	100 CFU/L (0.1 CFU/mL) for water samples and 200 CFU per swabbed area for biofilms											
Specificity	<p>Tested against a wide range of waterborne bacteria, including <i>Acinetobacter calcoaceticus</i>, <i>Aeromonas hydrophila</i> subsp. <i>hydrophila</i>, <i>Bacillus subtilis</i>, <i>Burkholderia cepacia</i>, <i>Citrobacter freundii</i>, <i>Citrobacter koseri</i>, <i>Escherichia coli</i>, <i>Enterobacter cloacae</i>, <i>Klebsiella oxytoca</i>, <i>Pseudomonas aeruginosa</i>, <i>Pseudomonas fluorescens</i>, <i>Pseudomonas putida</i>, <i>Pseudomonas stutzeri</i>, <i>Ralstonia pickettii</i>, <i>Raoultella terrigena</i>, <i>Streptococcus pyogenes</i>, <i>Yersinia ruckeri</i>.</p> <table border="1"> <thead> <tr> <th>Organism</th> <th>≥cfu/mL</th> </tr> </thead> <tbody> <tr> <td><i>L.p. Sg-2,3,8,11,13,14</i></td> <td>1.00E+08</td> </tr> <tr> <td><i>L.p. Sg-4,5,6,7,9,10,15</i></td> <td>1.00E+07</td> </tr> <tr> <td><i>L.p. Sg-12</i></td> <td>8.00E+06</td> </tr> <tr> <td><i>S.aureus</i></td> <td>2.00E+08</td> </tr> </tbody> </table> <p>The Hydrosense <i>Legionella pneumophila</i> SG1 test has been shown to produce weak positive results with other legionella pneumophila serogroups at the cfu/mL stated in the above table.</p>		Organism	≥cfu/mL	<i>L.p. Sg-2,3,8,11,13,14</i>	1.00E+08	<i>L.p. Sg-4,5,6,7,9,10,15</i>	1.00E+07	<i>L.p. Sg-12</i>	8.00E+06	<i>S.aureus</i>	2.00E+08
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Test volume	100 µL											
Suggested sample volume/area	250 mL (water samples)/ 10 cm <sup>2</sup> (biofilms)											
Sample parameters	<p>pH range 5–10            Sample temperature range 15–45 °C (59–113 °F)            Environmental operating range 1 5–40 °C (59–104 °F)            Free chlorine concentration &lt;5ppm            Total Alkalinity &lt;1000 ppm            Total Hardness &lt;1000 ppm</p> <p>Water Samples: Sample should filter in less than 10 minutes</p> <p>Biofilm Samples: Resuspension of the bacteria should be done in 2 mL of recovery solution. Shake the tube for at least 20 seconds</p>											
Biocides	<p>The product has been tested with a range of common biocides and biodispersants used in <i>Legionella</i> control, at their normal maximum operating concentration. Active ingredients tested include: glutaraldehyde, didecyl-dimethyl-ammonium chloride, isothazoles, dibromonitripropionamide, ionic and non-ionic surfactants.</p> <p>The test gives a false positive if used with polymeric biguanide or THPS. It should not be used to test such systems.</p>											
Operator time	5–10 minutes											
Test time	25 minutes											
Shelf life	18 months from date of manufacture, when stored at room temperature (<30°C) in original packaging. All test strips are hermetically foil-wrapped and with a printed expiry date.											