

Hydrosense Ultra *Legionella* Water Test Data Sheet

This kit is designed to test for *Legionella* 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* Water Test product code 100198

The test contains all the items required to perform 1 test.

- The test detects *Legionella pneumophila* serogroup 1 (LpSG1).
- With filtration step, the sensitivity of the water test is 100 CFU/L.
- The test detects Viable-But-Non-Culturable Bacteria and *Legionella* SG1 in all stages of its life-cycle.
- No need to measure or dilute solutions.
- Provides straightforward results, on-site, within 25–35 minutes.
- The test is simple to use, no interpretation is required.
- The test helps to minimise delays and downtime.
- Minimises 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 | | | | | | | | | | |
| Lower limit of detection | 100 CFU/L (0.1 CFU/mL) | | | | | | | | | | |
| 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> <p>No cross reactions have been observed at concentrations $\leq 10^9$ CFU/L. <i>Staphylococcus aureus</i> has been observed to cross-react with the test at concentrations $> 10^8$ CFU/L, which is higher than found in most water samples.</p> <table border="1"> <thead> <tr> <th>Organism</th> <th>\geqcfu/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 <i>Legionella pneumophila</i> serogroups at the cfu/mL stated in the above table.</p> | Organism | \geq 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 |
| Organism | \geq cfu/mL | | | | | | | | | | |
| <i>L.p. Sg-2,3,8,11,13,14</i> | 1.00E+08 | | | | | | | | | | |
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| <i>L.p. Sg-12</i> | 8.00E+06 | | | | | | | | | | |
| <i>S.aureus</i> | 2.00E+08 | | | | | | | | | | |
| Test volume | 100 μ L | | | | | | | | | | |
| Suggested sample volume | 250 mL | | | | | | | | | | |
| Sample parameters | Sample should filter in less than 10 minutes. | | | | | | | | | | |
| Biocides | <p>The product has been tested with a range of common biocides and biocides used in <i>Legionella</i> control, at their normal maximum operating concentration. Active ingredients tested include: glutaraldehyde, dodecyl-dimethyl-ammonium chloride, isothiazoles, 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 ($<30^\circ\text{C}$) in original packaging. All test strips are hermetically foil-wrapped and with a printed expiry date. | | | | | | | | | | |