

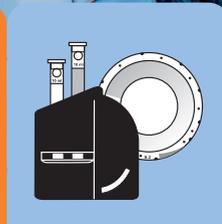
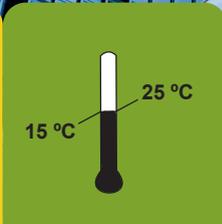
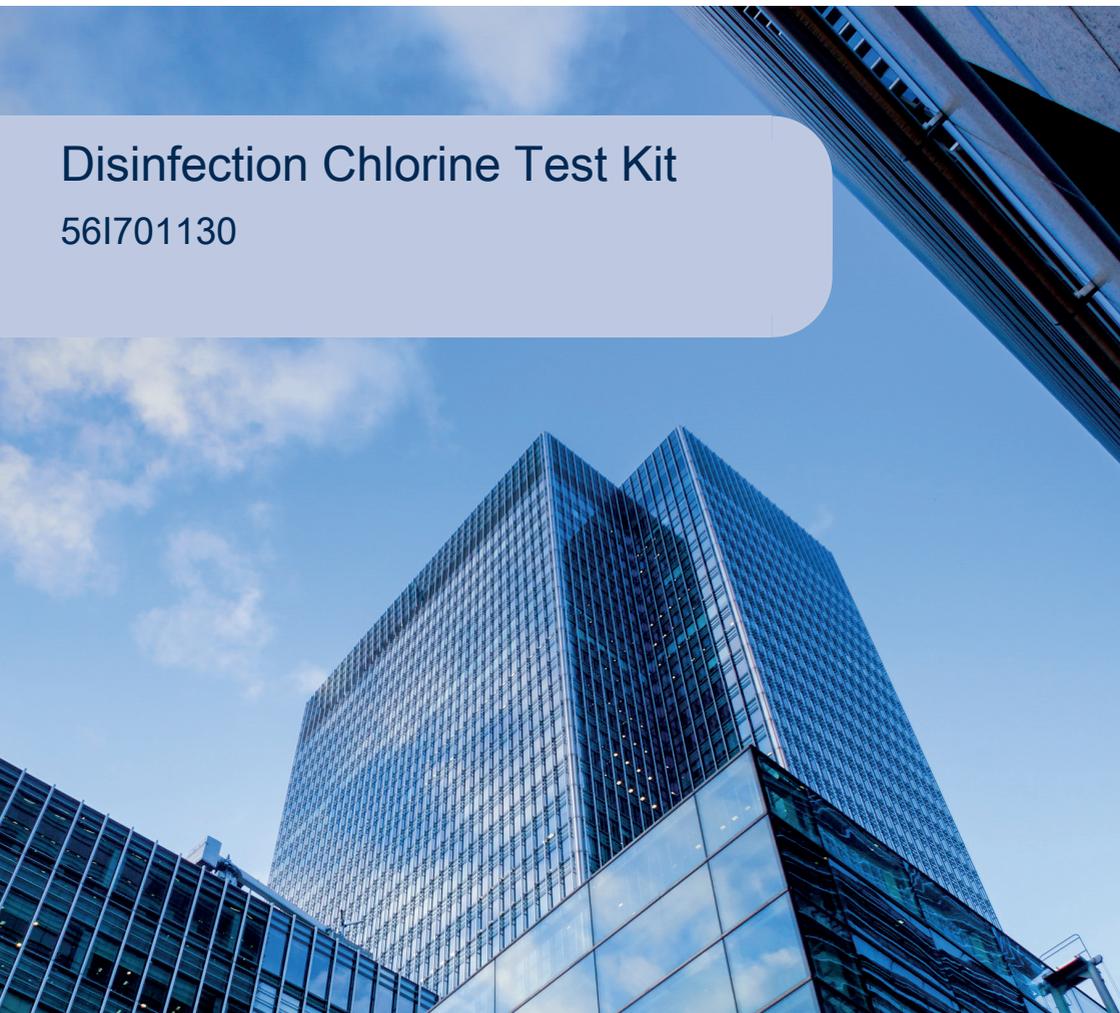
Lovibond® Water Testing

Tintometer® Group



Disinfection Chlorine Test Kit

561701130



Disinfection Chlorine Test Kit

Cooling towers, evaporative condensers, make up tanks and associated systems should be cleaned and disinfected every six months.

Hot and cold water services may also require disinfection if:

1. Routine inspection shows it to be necessary
2. If the system has been substantially altered leading to possible contamination.
3. During or following a legionella outbreak.

This test kit provides the water treatment engineer with suitable testing equipment to measure water conditions throughout the disinfection process.

Tests included are as follows:

Chlorine – Free (drop test)

Disinfection guidelines for water services advise free chlorine residual in the cold water storage tanks should be raised to between 20 and 50mg/l Cl₂. This concentration should be monitored throughout the disinfection to ensure that header tank levels remain, with additional disinfectant added to top up when necessary. The Chlorine (Free) drop test can be used to monitor tank levels.

Starch/Iodide Papers

Contact time for 50ppm chlorine is at least 1 hour and 20ppm chlorine is at least 2 hours. The disinfectant should be flushed through the system by systematically opening outlets such as taps and showers. Using starch/Iodide papers or potassium iodide tablets at these outlets will confirm the presence of disinfection concentrations of chlorine.

pH test strips

It is essential to monitor water pH in the storage tank throughout the disinfection process. The effectiveness of chlorine as a biocide is pH critical so careful pH control is necessary to maintain biocide efficiency.

Chlorine (Detection)

Starch/Iodide papers are provided to enable rapid detection of high chlorine levels at outlets during system disinfection. Simply wet a portion of paper in the stream of water from an outlet. If the paper turns blue/black then chlorine is present at levels above potable water limits. The paper will typically detect chlorine above 5ppm (pale colour change) and give a deep blue/black colour with 100ppm chlorine.

pH Measurement

The effectiveness of the oxidising biocide is pH dependant. Correct pH control during chlorination is essential to ensure maximum biocide efficiency.

Simply take a sample of water to be tested and dip the test strip into the sample. Remove and Compare to colour chart provided.

Note:

1. Further instructions can be found with the corresponding product.

Chlorine (free)**56I700200****1 - 300 mg/L Cl₂****Material**

EN

Reagents	Packaging Unit	Part Number
Chlorine Free Buffer FCL1	65 mL	56L015165
Chlorine Free LR Titrant FCL2	65 mL	56L015265
Chlorine Free HR Titrant FCL3	65 mL	56L015365

The following accessories are required.

Accessories	Packaging Unit	Part Number
Syringe, plastic, 20 mL	1 pc.	56A006501
Titration jar with cap, plastic, 60 mL	1 pc.	56A006701

Notes

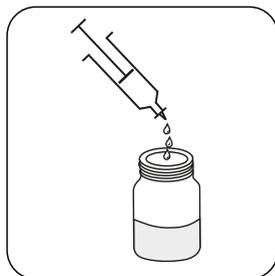
1. Colours may vary depending on sample and test conditions.
2. Test should be carried out immediately on fresh samples.
3. If adding chlorine in an intermittent dose, wait 10-15 minutes after dosing before sampling and testing.
4. This wait is not necessary for continuously dosed systems.
5. Add 10 drops of Chlorine Free Buffer FCL1 if you are testing samples with a hardness greater than 400 mg/L (as CaCO₃).
6. ¹Dilute samples of less than 20 mL to approximately 20 mL with distilled or deionised water.

Sampling

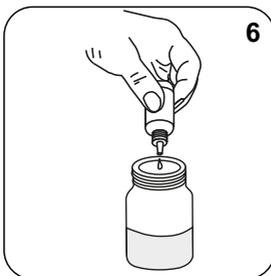
Select the sample volume from the table according to the expected measuring range and read off the factor to calculate the result.

Expected Range	Titrant used	Sample Size	Factor
1-4 mg/L	Chlorine Free LR Titration FCL2	40 mL	0.25
2-8 mg/L	Chlorine Free LR Titration FCL2	20 mL	0.50
5-15 mg/L	Chlorine Free LR Titration FCL2	10 mL ¹	1.0
10-30 mg/L	Chlorine Free LR Titration FCL2	5 mL ¹	2.0
15-40 mg/L	Chlorine Free HR Titration FCL3	40 mL	2.5
25-80 mg/L	Chlorine Free HR Titration FCL3	20 mL	5
50-150 mg/L	Chlorine Free HR Titration FCL3	10 mL ¹	10
100-300+ mg/L	Chlorine Free HR Titration FCL3	5 mL ¹	20

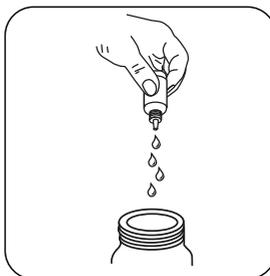
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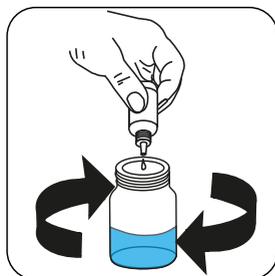
Attention! Select the appropriate sample volume according to the instructions in the chapter Sampling.



Add **6 drops Free Chlorine Buffer FCL1**.
Note: Add 10 drops when hardness of sample is greater than 400 mg/l (as CaCO₃).



Attention! Record the number of drops that will be added.
Note: Make sure to swirl the jar after adding each drop!



Add **Chlorine Free LR Titrant FCL2 or Chlorine Free HR Titrant FCL3** drop by drop to the sample until colouration turns from **colourless/pale yellow to blue**.

Calculate test result: Free Chlorine (as Cl₂) mg/L = Number of drops x factor (see table)

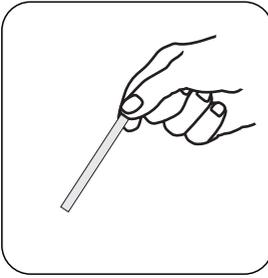
Chlorine HR

Strips CI HR
10-20010 - 200 mg/L Cl₂

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Notes

1. High concentrations will bleach the strip white and a thin blue line may separate wet from dry area.
2. Color indicates approximate strength of the solution as total available chlorine.
3. Store in cool, dry place and away from direct sunlight.
4. The test strips must be stored in the closed packaging.



Remove one test strip.
Hold the end of the test
strip between index finger
and thumb.

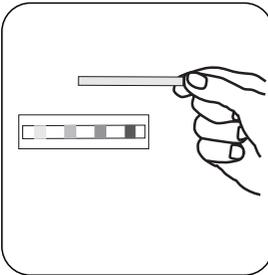


Dip the test strip into
the solution to be tested
without agitation.



Shake off excess liquid.

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Read the result from the
colour scale.

pH

Strips pH 7-14

7 - 14 pH

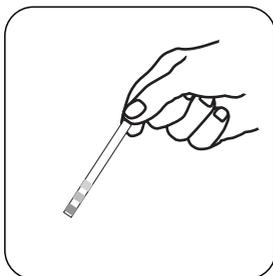
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Material

Reagents	Packaging Unit	Part Number
pH Strips pH 7-14 Plastic	1 pc.	56S001190

Notes

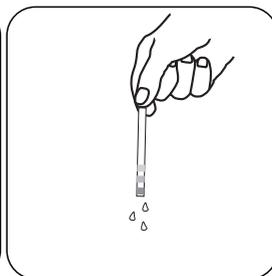
1. When handling test strips, make sure to touch them with your fingers only at the end of the test strip. The pads must not come into contact with the fingers.
2. The test strips must be stored in the closed packaging.



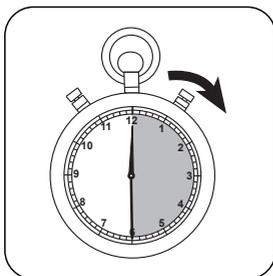
Remove one test strip.
Hold the end of the test strip between index finger and thumb.



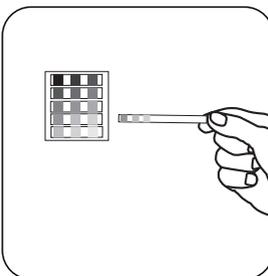
Dip the test strip into the solution to be tested so that all pads are completely immersed.



Shake off excess liquid.



Compare the colour of the test strip within 30 seconds with the colour chart provided.



Read the result from the colour scale.

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Technical changes without notice
Printed in Germany 08/23

No.: 561701130

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