Measuring principle:

(Manometric with pressure sensor) Measurement using OxiTop ® is based on pressure measurement in a closed system: microorganisms in the sample consume the oxygen and form CO₂. This is absorbed by NaOH, creating a vacuum which can be read directly as a measured value in mg/l BOD. The used sample volume regulates the amount of oxygen available for a complete BOD. Measurement ranges of up to 4000 mg/l can be measured using different volumes. The OxiTop ® heads green and yellow for differentiation of inflow/outflow) have an AutoTemp function: if the sample temperature is too cold, the start of measurement is automatically delayed (by at least 1 hour) until a constant temperature has been reached. Apart from the automatic storage of 5 measured values (1 value per day), further measured values can be read at all times during or after the period of 5 days, which permits the tracking of check values or measurements over longer periods.

Determination of biodegradability

The determination of the biodegradability should be checked before “new” chemicals are used for the first time, not only for environmental reasons but also to minimize disposal charges. The sample and a blank are stirred at a constant temperature for 28 days in closed bottles. The CO₂ Produced is removed from the gas space by means of an absorber so that the resulting negative pressure is a measure of the biodegradability. The continuous recording of the values in the OxiTop ® - C means that the required documentation can be guaranteed in an optimal manner. The Measuring bottles and adapters can be autoclaved at 249.8 ° F (121 ° C).

Measurement:

1. To measure the sample volume overflow measuring beakers or measuring cylinders are used. Choose the volume according to the measured value expected.
2. Put the magnetic stirring rod into the bottle.
3. Insert a rubber quiver in the neck of the bottle.
4. Put 2 sodium hydroxide tablets into the rubber quiver with a tweezers. (Caution: The Tablets must never come into the sample!)
5. Screw OxiTop directly on sample bottle (tightly close).

**Start measurement:**

a. Press S and M simultaneously. (2 seconds) until the display shows 00. Display: Stored Values are deleted.

b. Keep the measuring bottle with the OxiTop Put on for 5 days at 20°C.

c. During the 5 days the sample is continuously stirred. The OxiTop Automatically stores one value every 24 hours for 5 days. To have the current values shown press the M key.

d. Readout Of the stored values after the 5 days has passed.

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**Recall stored values:**

Press S until measured value is displayed (1 second).

Scroll to next day by repressing the S key while the measured value is displayed (5 sec). Fast scrolling by repeatedly pressing the S key.

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Convert the displayed measured value (digits) into the BOD Value with the following table (Digits X Factor = BOD5 in mg/l):
<table>
<thead>
<tr>
<th>Sample volume (ml)</th>
<th>Measuring range (mg/l)</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>432</td>
<td>0 - 40</td>
<td>1</td>
</tr>
<tr>
<td>365</td>
<td>0 - 80</td>
<td>2</td>
</tr>
<tr>
<td>250</td>
<td>0 - 200</td>
<td>5</td>
</tr>
<tr>
<td>164</td>
<td>0 - 400</td>
<td>10</td>
</tr>
<tr>
<td>97</td>
<td>0 - 800</td>
<td>20</td>
</tr>
<tr>
<td>43.5</td>
<td>0 - 2000</td>
<td>50</td>
</tr>
</tbody>
</table>