



**ENVIRONMENTAL
MEASUREMENT TECHNOLOGY**
HANDHELD MEASURING DEVICES



Get a handle on water analysis.

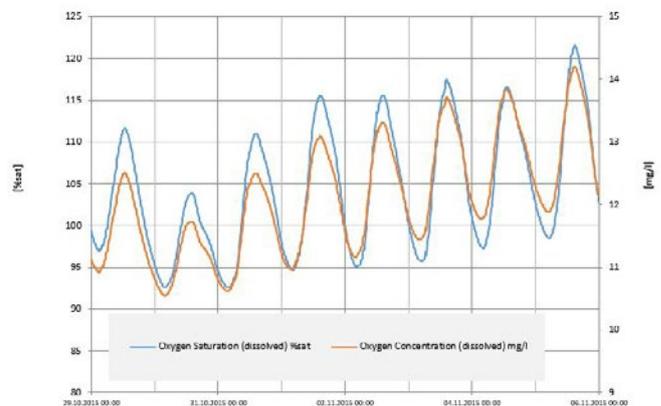
Quick, precise, reliable.

Oxygen Deficiency in Fishing Waters.

Quick, precise and reliable measurement.

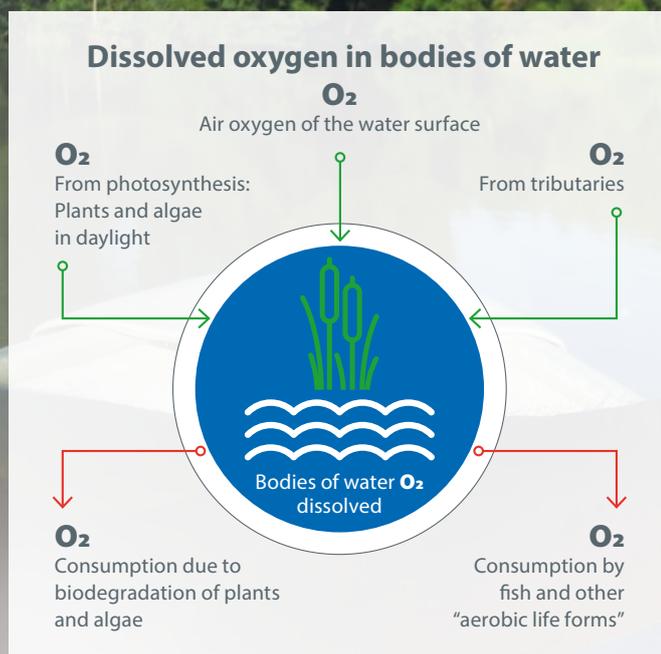
The increasing global changes resulting from climate change, intensified land use and surface consumption have a detrimental effect on the overall ecosystem. The oceans, seas and waterways, in particular, are impacted negatively. They are the living space for fish, micro-organisms and other organisms – ultimately water is the basis of all life. The 'upending' of a lake or river is a serious ecological problem – specifically, what triggers this dysfunction and how we can counteract it.

The biological circuit follows a process: biomass is built up by algae and water plants, consumed by zooplankton and fish, then utilised and ultimately decomposed by bacteria. The essentially out-of-step material cycle upends the body of water. This also creates sustained high temperatures in many waterways containing fish and small organisms. The warmer the water is, the less oxygen the water can provide them. This creates an acute danger for fish stocks. The consequences of an oxygen deficiency take effect at varying rates depending on the fish species.



Continuous recording over a sunny week:
The highest oxygen concentration (oversaturation above 100 %) was achieved at noon and then the values dropped continuously until the morning hours around 5:00 am. These critical hours are the most important measuring time!

» Greisinger produces high-quality handheld measuring devices based on the extensive know-how of experienced specialists. In the process, current market trends and requirements are tracked and used in the development of new technologies. «



Oxygen Deficiency in Fishing Waters.

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What to do when a body of water is upended

If a body of water is upended, it usually follows an extended period during which it has no longer been "stable". A few hot, sunny days or even heavy rains that flushes high quantities of fertiliser from the fields are sufficient to trigger the upending of the water. Restoring an upended body of water to a healthy state is very difficult and can take years. An immediate measure is to slow the supply of nutrients or even use chemical means, or the physical supply of oxygen by means of powerful pumps can also provide a short-term improvement by increasing the oxygen content artificially. In the long term, however, it would be preferable to take preventive action so that the danger does not arise at all.

Taking a step in the right direction

Regular measurements and observations of bodies of water provide quick conclusions about the quality of chemical/ physical environmental changes. Droplet tests and electronic measuring devices can be used for measurement.

Advantage of mobile devices: The devices guarantee exact measurement that is possible at different depths without the need for elaborate sampling. This is important because there is often a zone without oxygen directly above the sludge, whereas the concentrations in higher layers are still sufficiently high. This is exacerbated in muddy waters with little circulation.

Measurement from the bank is often sufficient to learn more about the various zones of a body of water. Nevertheless, a measurement on the body of water has also been found to be very helpful. Important for the measurement: The sensors require a minimum flow for precise measurement data detection. For this purpose, slight movement of the sensor in the water is sufficient.

Calibration in the air by pushing a button is recommended at the beginning of the measurement.



G 1000 series



GMH 3000 series



GMH 5000 series



G 7500

The right device for every situation – Center of Competence Greisinger

The **G 1610** handheld measuring device from the **G 1000 series** from **Greisinger** makes it easy to determine the oxygen concentration in water.

The **GMH 3000 series** impresses with a durable housing and professional scope of functionality that make it flexible for measurements in the most extreme conditions.

The **GMH 5000 series** combines the properties of the aforementioned series in a float design for reliable field measuring devices that are impervious to weather influences, dust, dirt and darkness.

The **G 7500 combination device** for simultaneous detection of the pH value and oxygen content is the perfect multi-tasker. Easy operation and the increased buffer volume also enable recording of larger amounts of data.

For especially critical bodies of water with valuable fish stock, we also provide measuring stations for permanent, low-maintenance and autarkic oxygen monitoring offering features up to and including cloud integration – contact our specialists.

Your direct contact to us



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