Measurement and Sample Preparation

Type of measurement :	continuous 2 channel respiration measurement, e. g. BOD
	and sludge activity using original activated sludge
Option:	biomass recycling
Measurement range :	user - adjustable between
	1 - 50 and 1 - 200,000 mg/l BOD
Actual interval value :	every 3 - 4 minutes
Sample preparation :	Maintenance-free particle separator

Operation and Data Output

Graphic-LCD-screen, high resolution, back-lit
Autostart-Function
Self-explaining software including maintenance checklists and support
Industry-standard data interface, data storage on flash card

Connections

Waste water, Drain:	tube 30 mm ID or threaded 32 mm OD or as specified
Electrical Power:	230 / 115 V~, 50 / 60 Hz, 150 VA
Analog Output:	0/4 - 20 mA (BOD)
Analog Output:	0/4 - 20 mA (sludge activity)
Serial interface:	for data transfer and remote control
	Malfunction alarm, life-zero, connection for printer
Remote control:	via TCP/ IP protocol (internet)

Dimensions and Weight

Cabinet :	IP 54
Dimensions :	600 x 862 x 540 mm (W x H x D)
	(23.6 x 33.9 x 21.3 inches WxHxD)
Weight :	70 kg

If you require more information about our products, e. g. for online TN_b, TP, COD, BOD or toxicity measurement, please call us.

We are happy to advise you!

The TOC Company

PROCESS ANALYSERS AG

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TÜVRheinland® CERT ISO 9001

The TOC Company

PROCESS ANALYSERS AG

Simultaneous measurement of BOD and sludge activity in 4 minutes !

BioMonitor® Series

Continuous Short-Time-BOD-Measuring Systems

- **Measurement of BOD and sludge activity with one instrument**
- **For waste water treatment and process control**
- **Fast, precise, no filter**

BioMonitor®

For controlling industrial and municipal waste water treatment plants (WWTP)

The **BioMonitor** is suitable for many different applications:
... for fast and reliable load ratio documentation of the influent and effluent of any plant with the aid of either the BOD concentration or the BOD load,
... for controlling the denitrification at the effluent of any plant by exact dosing of the waste water as carbon source
... for adjustment of a constant sludge load by calculating the amount of return sludge with help of the known concentration of biological degradable substances, present at the influent,
... for water monitoring at water quality monitoring stations.
The following is an explanation of the reasons for the versatility of this instrument:

Correct and precise BOD measurement with the activated sludge of the plant

The patented measuring method of the **BioMonitor** works just like a miniature treatment plant. The activated sludge, either supplied directly from the plant or circulating with the sludge recycling system, degrades the substances present in the waste water. The oxygen required for this process is measured. This process takes place in the waste water cascade of the **BioMonitor** which works exactly like an aeration tank.

Since the microorganisms which are contained in the activated sludge do also breathe oxygen, the self-respiration has to be subtracted from the total oxygen consumption for the exact BOD determination. This self respiration is measured in the reference cascade of the **BioMonitor**. Finally, the BOD is calculated from the difference between the values measured in both cascades.

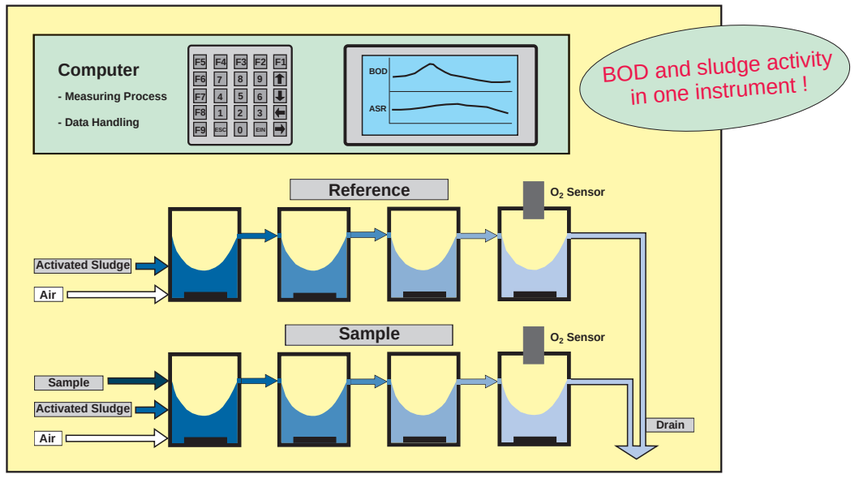

fig.1: Operation principle of the BioMonitor

Complete degradation of the substrate in the fastest time possible

Compared to systems with just one reaction vessel the degradation happens much faster and with the multi-step construction also hard degradable substances get determined in the rear waste water cascade.

The result for the user of this unique measuring principle is the precise and fully continuous determination of the BOD in three to four minutes. The sample gets degraded without any extra dilution exactly like in the particular treatment plant.

Simultaneous measurement of the Activated Sludge Respiration (ASR)

The self-respiration measurement of the activated sludge (ASR) ensures not only the exact calculation of the BOD. The ASR provides also important information on the condition of the plant´s own biomass which is especially of importance for controlling and supervision. E. g. if the ASR is falling slowly it could be an indication of a slow but definite poisioning of the activated sludge by toxic substances.

The TOC Company

LAR PROCESS ANALYSERS AG

Easy operation

The **BioMonitor** is equipped with a “Touch Screen Display” which depicts clear graphical surveys of measured values. In addition to graphics, the actual measurement values can be shown as a large digital display.

The complete operation manual is integrated into the self-explanatory software. Thereby the user may look up even infrequently required information directly at the instrument, anytime. The **BioMonitor** resumes normal operation after a power loss and stores all previous data in memory. This ensures optimum operation.

All graphics and results may be printed out through the printer interface. The analyser data can be transferred to a USB stick or directly through serial interfaces to a measuring station is a matter of course, just as the preparation for teleprocessing and remote control.

fig.2: BioMonitor inside view

TÜVRheinland® CERT ISO 9001

High correlation with BOD_5

The **BioMonitor** detects even rapid BOD changes and shows accurate measuring results.

The accompanying illustration shows the BOD value after 5 days in comparison to the values measured with the **BioMonitor** at the influent of a beverage company.

Noteworthy is the outstanding and most consistent correlation (r > 0,95) to the standard methods (DIN 38409-H51, APHA-AWWA-WPCF 5210 B, EPA - approval, etc.).

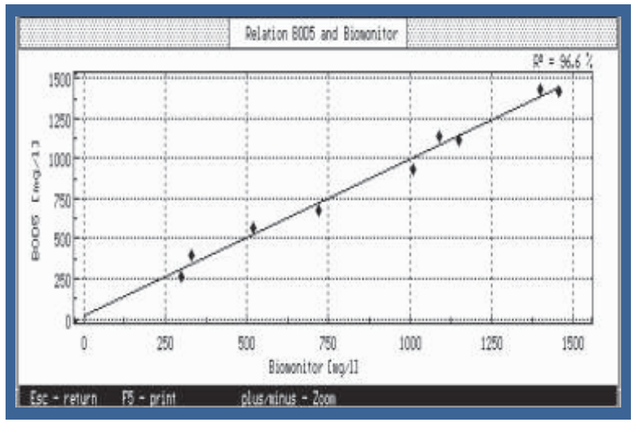

fig.3: High correlation between BioMonitor und BOD_5

Maintenance-free filterless sample preparation

The patented sample preparation system FlowSampler works filtration-free as the sample is taken in the centre of the sample stream against the direction of the main stream.
Thereby, all large particles get reliably removed. Smaller solid matter particles get sampled too so that a representative sample reaches the analyser.
FlowSampler masters even the most difficult tasks, for example; sampling at sewage work influents before the coarse screen.

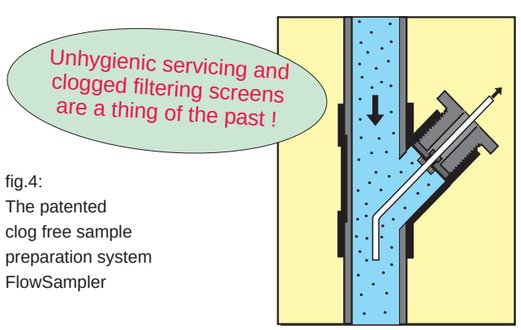

fig.4: The patented clog free sample preparation system FlowSampler