

## Technical Data

### Measurement and Sample Preparation

Type of measurement :	thermal combustion
Measurement range :	0 - 200 mg/l N
Response time :	1 - 2 minutes(application dependent)
Sample preparation :	maintenance-free particle separator optional continuous homogenisation of the sample

### Operation and Data Output

Graphic-LCD-screen, high resolution, back-lit
Autostart-function
Self-explanatory software including maintenance checklists and support
Industry-standard data interface

### Connections

Waste water, drain :	tube 30 mm ID or threaded 32 mm OD or as specified
Electrical power :	230 / 115 V~, 50 / 60 Hz
Analog output :	0/4 - 20 mA
Serial interface :	RS 232 for remote control Malfunction alarm, life-zero
Status output :	4 relay contacts
Remote control :	via TCP/ IP protocol (internet)

### Dimensions and Weight

Cabinet :	Steel IP 54 (NEMA 13)
Optional :	NEMA 4X (Class I Div 2) ATEX Zone 1, Zone 2
Dimensions :	1,020 x 700 x 520 mm (W x H x D) 40.2 x 27.6 x 20.5 inches (WxHxD)
Weight :	115 kg (254 lb)

The information and the illustrations in this brochure on appearance, service, measure, weight, consumption, maintenance times and so forth, are not binding and only an approximate description. It does not assure guaranteed qualities. This product description corresponds to the state of printing. Deviations in design, tint, as well as changes of the scope of delivery remain reserved. Version 302

If you require more information about our products e. g. for online TN<sub>b</sub>, TP, COD, BOD, ammonium, respiration or toxicity measurement, please call us.

**We are happy to advise you!**

**The TOC Company**

**LAR**  
PROCESS ANALYSERS AG

Neukoellnische Allee 134  
D-12057 Berlin  
Telefon : +49 (0) 30 278 958-23  
Telefax : +49 (0) 30 278 958-703  
e-mail: export@lar.com  
http://www.lar.com



**The TOC Company**

**LAR**  
PROCESS ANALYSERS AG

**The Reagent Free Solution for  
On-line TN<sub>b</sub> Measurement**

## QuickTON<sub>b</sub>

Continuous Short-Time  
TN<sub>b</sub> Measuring System

- Determines the real TN<sub>b</sub>  
in 1- 2 minutes
- For waste water treatment  
and process control
- Accurate, fast, filterless

• **The accurate solution to online TN<sub>b</sub> measurement**

The **QuickTON<sub>b</sub>** is an on-line measuring system for the determination of total nitrogen (TN<sub>b</sub>) according to DIN 38409 part 27, ENV 12260 and ISO - TR11905-2.

The **QuickTON<sub>b</sub>** is suitable for almost every TN<sub>b</sub> measurement in process control or sewage and industrial waste water application. Typical on-line applications are control of the production (e. g. the chemical and petrochemical industries) and monitoring the influent and effluent of both industrial and municipal waste water treatment plants (WWTP).

• **High temperature combustion**

The current state of the art engineering for thermal catalytic oxidation uses temperatures between 680° and 1,000°C. The **QuickTON<sub>b</sub>** has been engineered to work by using temperatures of more than 1,200°C. Therefore, all nitrogen compounds are oxidized effectively and rapidly, regardless of their composition.

• **Fast and precise measuring results**

The **QuickTON<sub>b</sub>** is designed to operate in a batch mode. The TN<sub>b</sub> is analysed in 1 - 2 minutes. This guarantees the determination of fast and transient peaks throughout the day.

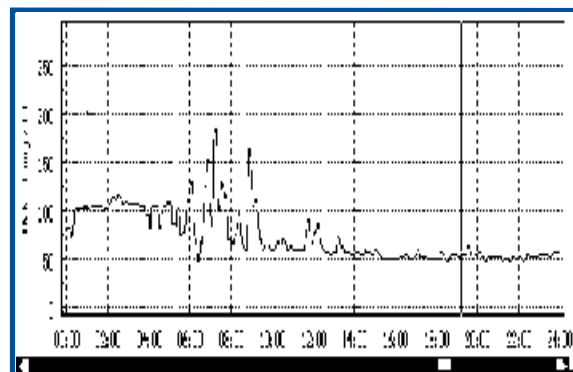


Figure 1: Daily survey measured with QuickTON<sub>b</sub> of the effluent from a chemical plant

• **Representative sample preparation**

The sample is taken by using the patented and maintenance-free sampling system **FlowSampler**. It works filtration-free and takes the sample in the centre of the sample stream against the direction of the main flow (see figure 2).

Even solid particles are sampled by the **FlowSampler** and reduced in size by a homogeniser. The sample is then pumped by the homogeniser through a flow through sample cell. In the sample cell the sample is continuously stirred to keep it in a homogenised, representative state.

• **Maintenance-free sampling system FlowSampler**

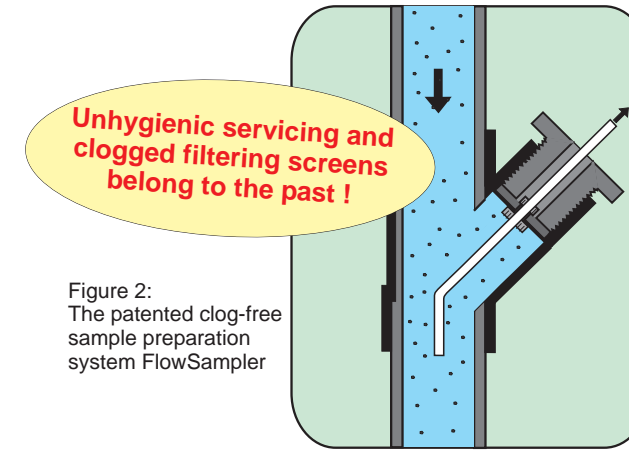


Figure 2: The patented clog-free sample preparation system FlowSampler

- **Accurate measurement of TN<sub>b</sub>**
- **Highest combustion temperature (1,200°C)**
- **Fast response time of 1 - 2 minutes**
- **Multi channel measurement (Option)**
- **Easy operation and software**



- **Thermal oxidation without reagents**
- **Excellent percentage recovery for ammonia and nitrate nitrogen**
- **Up times higher than 95%**
- **Service time less than 1 hour per week**
- **Very low maintenance and operation costs**

• **Reliable and proven operating principle with reduced costs**

The sample injection volume is controlled by a xy- syringe sampling system. The sample is then injected into the septumless injection port of the reactor.

By using a temperature of more than 1,200°C the **QuickTON<sub>b</sub>** obtains complete combustion of the nitrogen components in the sample. An important advantage compared with wetchemical methods is the complete detection of particle bounded nitrogen. At this high combustion temperature the analyser's percentage recovery for ammonia and nitrate nitrogen is excellent.

A main advantage of the high temperature combustion method used in the **QuickTON<sub>b</sub>** is that no reagents are necessary for the operation of the system. This feature provides outstandingly low service and operation costs, even in continuous mode.

The combustion gas from the reactor flows through a 2 stage gas-cooler which is maintained at 4°C, to an absorption column before flowing into the NO-detector, alternative as an option into a chemoluminescence detector to determinate the nitrogen.

The NO-signal is converted to a peak profile that is calculated by the internal data processor to the TN<sub>b</sub> value.

The software supports every available function from controlling the **QuickTON<sub>b</sub>** to further processing of the measured values. An uncomplicated data transfer through serial or parallel interfaces to a monitoring station is a matter of course.

All these features result in an easy to operate analyser with low maintenance requirements, high reproducibility and fast measuring results for many years - **QuickTON<sub>b</sub>** by LAR AG.

