

## Technical Data

### Measurement and Sample Preparation

Type of measurement :	thermal combustion
Measurement range :	ranging from 1-100 to max.
	100 - 200.000 mg/l COD
Response time :	1 minute
Repeatability :	2 %
Sample preparation :	maintenance-free particle separator, optional ultra-turrax for 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

### Dimensions and Weight

Cabinet :	steel IP 54 (Nema 13)
Optional :	NEMA 4X (Class I Div 2), Zone 1, Zone 2
Dimensions :	1020 x 700 x 520 mm (W x H x D) (40.2 x 27.6 x 20.5 inches WxHxD)
Weight :	115 kg

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.

If you require more information about our products (e.g. for Online-TOC, TN<sub>b</sub>, COD, BOD or toxicity measurement), please call us.

... there's so much more !



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**The Hot Solution to  
On-line COD-Measurement !**

## QuickCOD-Series

Continuous Short-Time-  
COD-Measuring System

- measures the COD  
in 1 minute
- for difficult waste water treatment  
and process control applications
- accurate, fast, filterless

- **The hot solution to on-line COD measurement**

The **QuickCOD** is an on-line measuring system for the determination of the chemical oxygen demand (COD) by thermal combustion, within a minute, even in difficult sample matrices.

The **QuickCOD** is suitable for almost every COD measurement in sewage treatment and industrial waste water application. Typical on-line applications are plant effluent monitoring, waste water treatment (influent and effluent water) and detection of organic spills and product loss (e.g. in chemical, petrochemical and food processing plants).

- **High temperature combustion**

The **QuickCOD** has been engineered to work without the aid of expensive catalysts by using temperatures of more than 1200°C. Therefore, difficult to combust compounds are oxidized effectively and rapidly, regardless of their composition.

- **Fast and precise measuring results**

The **QuickCOD** is designed to operate in a batch mode. The COD is analysed in 1 minute. This guarantees the determination of fast and transient peaks throughout the day.

- **No hazardous reagents**
- **No dangerous user exposure**

The method requires no caustic or other endangering substances. No cleaning solutions or hazardous reagents are required to be used or disposed of. The result is the highest operational safety and outstanding uncomplicated operation.

- **Representative 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 flow (see figure 1).

Even solid particles are sampled by the **FlowSampler** and are then reduced in size by a homogeniser. The sample is then pumped by the homogeniser through a flow through cell.

In the sample cell the sample is continuously stirred to keep it in a homogenised, representative state.

- **Maintenance- and filtration-free sampling system FlowSampler**

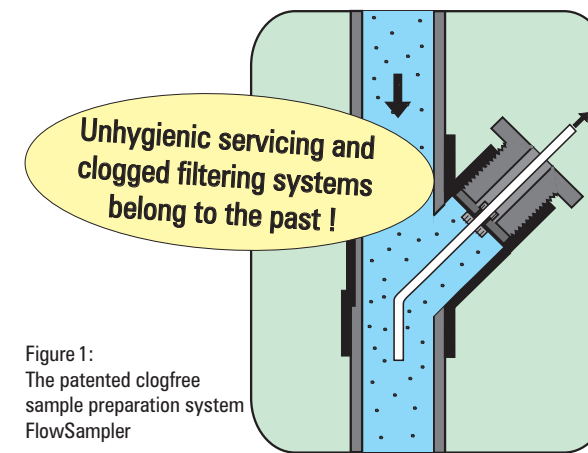


Figure 1:  
The patented clogfree sample preparation system FlowSampler

- **Accurate measurement of COD with thermal combustion**

- **Measurement of solid particles by homogeniser**

- **For the most difficult applications (high salt, solvents, ...)**

- **Multi channel measurement (option)**

- **Easy operation and software**



- **Reliable reagent-free thermal oxidation**

- **Works without the aid of an expensive catalyst**

- **Up times greater than 95%**

- **Total nitrogen (TNb) and COD in one instrument (option)**

- **Very low maintenance and operation cost**

- **Reliable and proven operating principle with reduced cost**

The sample enters the **QuickCOD** either through the optional homogeniser or the internal sample pump. The sample aliquot is then injected into the furnace.

Since the complete sample is injected into the furnace, no solvents can evaporate, and the **QuickCOD** is able to measure methanol, ethanol, and other volatile C-sources exactly.

By using a temperature of more than 1200°C the **QuickCOD** obtains complete combustion of all components in the sample. At this high temperature, the sample is fully oxidised, which enables the exact calculation of the COD. Even the most stable compounds can be measured.

After combustion the gas flows through a gas-cooler, which is maintained at 4°C, then through an absorption column, and finally through the gas analyser.

The gas analyser detects the signal in form of a peak. The area of the peak is calculated by the built in microprocessor.

With an optional chemiluminescence detector (CLD), an NO<sub>x</sub>-peak can be recorded synchronously. This allows the additional determination of total nitrogen (TN<sub>b</sub>) according to DIN 38409 part 27, ENV 12260 and ISO/TR11905-2 as a second parameter to the COD in one instrument.

The software supports every available function from controlling the **QuickCOD** 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 -

the **QuickCOD** by LAR Process Analysers AG.