

Technical Data

Measurement and Sample Preparation

Type of measurement:	thermal combustion at 1,200°C
Measuring range:	0.1 - 200 mg/l (ppm)
Response time:	2-3 minutes (application dependent)
Reproducibility:	± 2%
Accuracy:	± 2%

Operation and Data Output

Graphic-LCD-screen, high resolution, back-lit
Autostart-function
Self-explanatory software
USB-port
Industry-standard data interface

Connections

Sample water, in:	Prene tube 3.2 x 1.6mm
Sample water, drain:	PVC tube 12 x 2mm
Electrical power:	~115 / 230V, 50 / 60 Hz
Analog output:	0/4 - 20 mA
Serial interface:	RS 232 for remote control
Status output:	Malfunction alarm, life-zero
Remote control :	via TCP/ IP protocol (internet)

Dimensions and Weights

Cabinet:	steel IP 54
Option:	stainless steel, IP 65, ATEX zone 1 and zone 2
Dimensions:	1,060 x 600 x 520 mm (H x W x D)
Weight:	approx. 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 Q TOCeffluent-2 E 38 11

If you require more information about our products e. g. for on-line TOC, TN_b, TP, COD, BOD, ammonium, respiration or toxicity measurement, please call us.

We are happy to advise you!

The TOC Company

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The TOC Company

LAR
PROCESS ANALYSERS AG

**Fast Solution for
TOC Effluent Measurement**

QuickTOCeffluent

Fast on-line TOC measurement
at the plant's effluent

- Determines the TOC within minutes
- Combination with TN_b optional
- Accurate, fast and precise
- Easiest operation

• **Precise TOC Analysis especially for the WWTP effluent**

The **QuickTOCeffluent** of LAR is an on-line Measuring system for the determination of total carbon (TC), total organic carbon (TOC) and dissolved organic carbon (DOC) according to DIN EN 1484, ISO 8245 and EPA 415.1.

The **QuickTOCeffluent** is suitable for almost every TOC measurement at the effluent of industrial and municipal waste water treatment plants. Typical on-line applications are the combined effluent monitoring of TOC and TN_b in one single analyser. As a result the maintenance efforts will be reduced significantly compared to multiple analysers operation.

• **Thermal Combustion Technology**

The **QuickTOCeffluent** has been engineered to work without the aid of expensive catalysts by using temperatures of more than 1,200°C. Conventional thermal catalytic methods use temperatures between 680° bis 1,000°C.

Therefore, even difficult to combust compounds are oxidised effectively and rapidly, regardless of their composition.

• **Fast and Precise Measuring Results**

The **QuickTOCeffluent** is designed to operate in a batch mode. Every 2 to 3 minutes the T₁₀₀ value is measured. This guarantees the precise determination of short and transient peaks throughout the day.

CATALYST-FREE



THERMAL OXIDATION

FEATURES AND BENEFITS
● Catalyst- Free Technique
● Highest Combustion Temperature (1,200°C)
● Highest Reproducibility
● Lowest Maintenance Efforts
● Lowest Operational Costs
● Self- Explanatory Software
● Infrared Detection
● Fast Response Time (2 - 3 Minutes)
● Easiest Operation
● TN_b Detection Simultaneous (Optional)
● No Filtration Necessary at the Effluent



• **Measurement Principle**

The analytical part of the **QuickTOCeffluent** is a closed system and consists - apart from the well proved and very reliable combustion unit - of a low-maintenance and simple injection system, a robust infrared detector, as well as an industry standard PC with appropriate control and evaluation software. This enables the **QuickTOCeffluent** to perform precise measurements in the low mg/l (ppm) range.

For the detection of TOC at the effluents of industrial as well as municipal waste water treatment plants the so called TOC direct method or - more precisely - NPOC (Non Purgeable Organic Carbon) method is used. Here, the inorganic carbon is stripped from the sample stream and then, from the remainder, small and well-defined volumes are taken and injected into the carrier gas.

The stream of carrier gas is continually directed through the high temperature combustion furnace, where all water contained within the stream is vaporised and all carbon compounds are safely converted to CO₂. The carrier gas then transports the CO₂ to an infrared detector (NDIR) by which the accrued amount of CO₂ is determined. With the parameters obtained, the built- in personal computer (equipped with a customised and user-friendly software) calculates the actual concentration of the TOC in the water.

Various loop volumes are available, with which, together with variable injection frequencies and different injection volumes, the **QuickTOCeffluent** can be adjusted to different industrial and municipal effluent conditions.

As an option, the **QuickTOCeffluent** can be equipped to purify ambient air for use as carrier gas, in order to cut costs on bottled gas or instrument air, which then will not be needed.

