

Technical Data

Measurement

Dissolved Carbon (DC) or, optionally, Dissolved Organic Carbon (DOC) with stripping of inorganic Carbon

Method

Photochemical oxidation with NDIR detection of CO₂

Measuring Ranges

0.5 to 50 ppm	(online method, 0.25 ppm limit of detection)
0.1 to 10 ppm	(online method, 0.5 ppm limit of detection)
0.1 to 3 ppm	(online method)
0.05 to 1 ppm	(online method, 0.03 ppm limit of detection)
0.001 to 0.5 ppm	(batch method)

Coefficient of variation: <2% for end of range

Time	Response	T90	T100
TC only:	1 minute	7 Minutes	14 Minutes
With TIC Stripping:	3 minutes	15 Minutes	30 Minutes

Dimensions and Weight

Dimensions: 746 x 600 x 420mm (H x W x D)
(~29.4 x 23.6 x 16.5 inches)

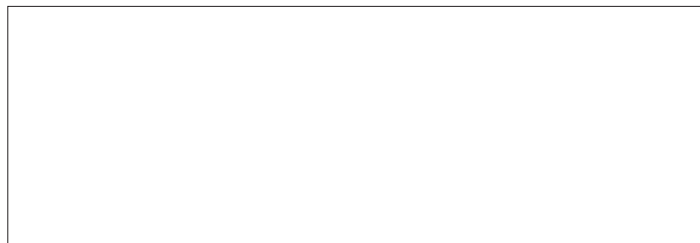
Weight: 70 kg (154 lb)

Consumables (for 10 days of service)

Conditioned Air:	720 to 2400 liters (TC) 2400 liters (TOC with TIC stripping)
Sulfuric Acid:	100ml for each 5 liters of deionized water
Potassium:	20g for each 5 liters of deionized water
Sodalime:	0.83 liters

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 for online TOC, TN_b, COD, BOD or Toxicity measurement, please call us.
... there's so much more !



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The Low-level Solution to
On-line TOC Measurement!

QuickTOC[®]uv
Continuous. Low-level
TOC Measuring System

- measures down to 1 ppb TOC
- for potable and pure water applications
- EPA approved standard method 5310C

Precise, continuous TOC analysis down to 1 ppb for ultrapure and clean water applications

The QuickTOC[®] uv from LAR Process Analysers AG is an on-line measuring system for the determination of total carbon (TC), total organic carbon (TOC), total inorganic carbon (TIC) and dissolved organic carbon (DOC) according to USEPA Standard Method 5310C.

Utilizing the popular UV/Persulfate method, the QuickTOCuv provides highly accurate TOC measurement in the low ppb range down to 1 ppb for pure water and potable water industries.

As industries become increasingly dependent on pure water, on-line TOC analysis has become the preferred (and often required) method to validate purity and protect against contaminants that threaten expensive systems, public safety and product quality.

The QuickTOCuv provides the low-level precision required to monitor TOC in applications such as:

- Monitoring for contaminants in Surface Water
- Disinfection Byproducts in Drinking Water
- Quality monitoring in Industrial Cooling Water
- Monitoring reclaimed condensate

UV/Persulfate Technology

The QuickTOCuv has been engineered to produce highly precise TOC measurements using the widely accepted UV/Persulfate method (SM 5310C).

Fast and precise measuring results

Operating in a continuous mode, the QuickTOCuv, can produce results in as little as one minute (TC only) or as quickly as every three minutes (TOC) replacing lab tests that can take hours or even days.

FEATURES AND BENEFITS
● Superior Low-level TOC detection
● Standard Method 5310C Compliant
● Menu-Guided Operation Option
● Dual Channel Measurement Option
● Response-time as Low as 1 Minute
● Auto Calibration Option (liquid or gas)
● Ambient Air Conditioning Option
● Carrier Gas Flow Controller Option
● Humidity Sensor Option
● Pressure Sensor Option

LAR's QuickTOCuv



Principle of Operation

Many industries have standardised on the UV/Persulfate method in applications that require the measuring of very low levels of Total Organic Carbon (TOC), and this popular technology is now available through the QuickTOCuv from LAR Process Analysers AG.

The QuickTOCuv offers the combined oxidizing effect of sodium persulfate and exposure to ultraviolet light, then measures the resulting CO₂ with non-dispersive infrared detection (NDIR) to achieve TOC or TC measurements as low as 1 ppb.

During normal operation, a peristaltic pump draws the sample continuously through the analyzer. The sample is drawn first through a sulfuric acid scrubber where inorganic carbon, having a weak molecular bond, is converted to CO₂ by exposure to the acid. The sparged CO₂ is then released through a vent, and the remaining (inorganic carbon-free) sample passes into the UV reactor.

As the sample passes from the scrubber into the UV reactor it mixes with concentrated sodium persulfate and is exposed to high intensity UV light. The combined photochemical oxidising effect converts the organic carbon to CO₂.

After liquid/gas separation, the liquid is sent to drain and the gas is carried into the NDIR detector. The detector measures the CO₂, which correlates to TOC.

While online measurements enable the QuickTOCuv to be incorporated into control loops, operators can also choose to use the QuickTOCuv to measure grab samples, providing for maximum flexibility.

UV/Persulfate Process Flow

