CONTINUOUS **T.O.C.** ANALYZER

Features and advantages

Continuous measurements of TOC / DOC in water

Method compliant with US- EPA 415-2

Automatic calibration

Control with industrial PC

Dual channel measurement (optional)

Possibility of measurement expressed as COD (related to TOC)

Generator of purified air (optional) (Carrier Gas)

Humidity sensor (optional) (NDIR-Detector Protection)

Pressure sensor (optional) (Pressure Control System)

The **UVTOC-METER** is a continuous analyzer for the determination of total carbon (TC), total organic carbon (TOC) or dissolved organic carbon (DOC) according to the US-EPA Standard Method 5310C.

By using the UV-Persulfate method provides highly accurate measurements of TOC in the low ranges (up to 1 ppb for pure water), for drinking water and surface water.

A typical application is the continuous monitoring of critical phases of industrial processes to ensure the safety of production processes and to guarantee the quality of the produced goods. Typical users are the chemical and pharmaceutical industries, food, electronics, but also the untreated wastewater.

UVTOC METER

Analytical method

The untreated sample is mixed with the carrier gas (air) and the oxidation reagent (Sodium Persulfate) and then conveyed through the UV reactor.

The CO is measured in a NDIR-Detector (Non Dispersive Infrared Detector) and displayed as TC content in ppm C or mg/l C.

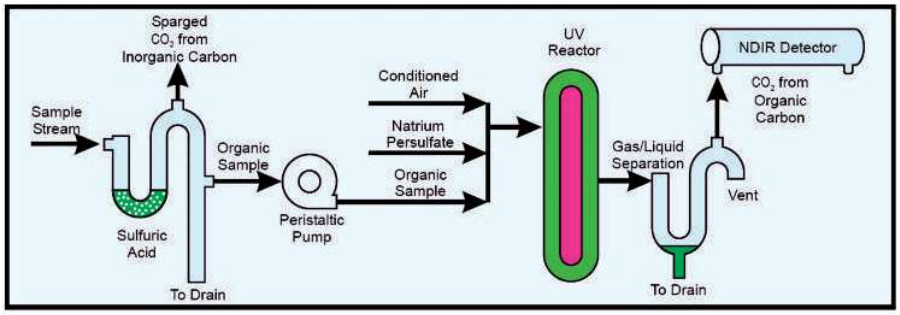
TOC / DOC

For the determination of TOC / DOC it is used direct method or more precisely the NPOC method (Non Purgeable Organic Carbon).

To measure the NPOC content, sample analysis is performed in a multi-step process. The sample flows continuously into the analyzer. In the first phase the sample is acidified with sulphuric acid to reach a pH value < 2 and purged with gas to remove the inorganic carbon.

During this phase, the "purgeable" carbon potentially existing (POC) is removed. From this point the sample consists of "not purgeable" organic carbon (NPOC).

In the next step the sample (free from inorganic carbon) is pumped into the reactor where it is exposed to ultraviolet light.



The UV radiation together with the concentrated persulfate, which is also pumped into the reactor, completely oxidizes the organic carbon compounds (NPOC) into CO_2.

When leaving the reactor, the CO_2 flow passes through the gas-liquid separation device before entering the high sensitive infrared detector (NDIR), which measures the CO_2 concentration.

An on-board controller will process the data of the NDIR detector to calculate the concentration in mg/ or ppm.

The sophisticated gas and liquids calibration functions ensure accurate results.

Hardware features, software features and functions UVTOC METER

Measurement	Total Carbon (TC) or alternatively Total Organic Carbon (TOC / DOC) with stripping of inorganic carbon
Method	Photochemical Oxidation with determination of CO2 with NDIR
Measuring ranges	0.1…1 ppm ; 0.5…10 ppm ; 1…50 ppm ; 10…100 ppm ; 50…500 ppm ; 100…1000 ppm
Display	Graphic LCD Backlit
Interface	Auto-start function, self explanatory software, with integrated help system. Automatic maintenance control.
Hydraulic connections	**sample, discharge:** tube 30 mm ID
Power supply	230 / 115 V~, 50 / 60 Hz
Analogue output	0/4…20 mA
Serial port	(RS 232) for remote control
Status outputs	4 relays for malfunctions, life-zero
Remote control	via TCP/ IP protocol (internet)
Serial port	(RS 232) for remote control
Status outputs	4 relays for malfunctions, life-zero
Housing	SS Cabinet IP 54
Dimensions	(L x H x P) 746 x 600 x 420 mm
Weight	45 kg
Optional	SS Cabinet, IP 65, ATEX zone 1 and zone 2