



**SAO NAM**  
Specified service center for PMS



# miniTOC

ON & OFFLINE TOC CONTROL  
FOR PURE WATER



# THE TOC SENSOR FOR PURE WATER SYSTEMS USING HIGH EFFICIENT “DIRECT SURFACE” UV OXIDATION WITH INLINE CONDUCTIVITY MEASUREMENT

The **miniTOC** instrument uses the classical flow through concept for TOC measurement. The efficient UV oxidation of organic compounds by “direct surface” principle in combination with conductivity detection guarantees the high precision of the measured values.

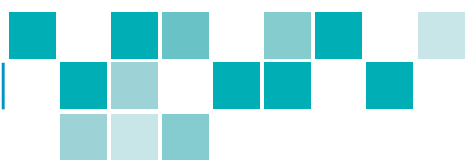
Automized functions of SST (online version only) and calibration. Allows a high standard of safety and minimized operation costs in measuring the water.

Operation control is achieved on the basis of WINDOWS 7 embedded software and through a TFT touch screen. All data are encrypted and stored in a specific file for every day. So nobody can manipulate the raw data.

It is an easy to use system which brings quality control at an affordable level to your lab. The **miniTOC** is a valuable accessory for all pure water systems.

**miniTOC online** can also be ordered with interval measuring. With that option up to 3 measuring points or loops can be controlled online with only 1 system. The interval can be configured by the user.

The **offline** version can be ordered with or without auto-sampler.

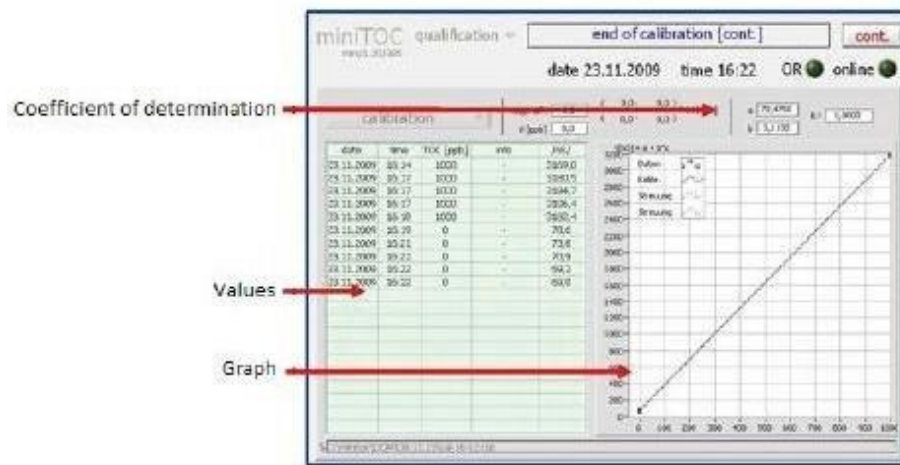


## CALIBRATION

Calibration can be done by the user himself. For calibration of the **miniTOC** instrument the calibration is selected and the calibration is performed.

The operator has to connect the inlet with the calibration standard solution and the diluting water sample. The programmable procedure of the calibration steps will be performed automatically.

The statistical evaluation of the measurements and the corresponding calibration parameters will be shown on the screen (plausibility test).

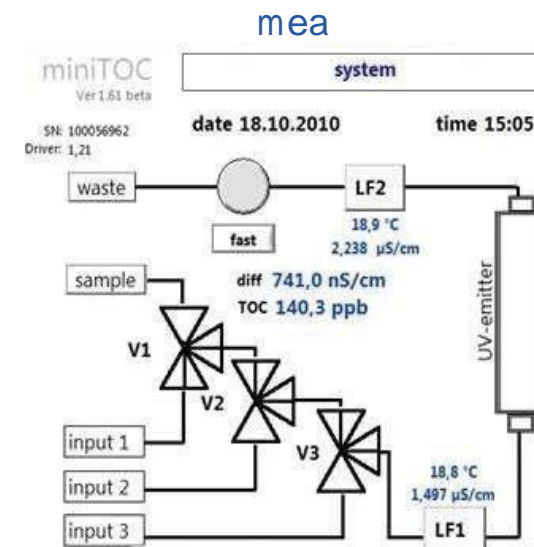


fully automatic calibration

## SYSTEM SUITABILITY TEST – SST

The verification of the **TOC** results according to requirements of USP and Ph.Eur are realized by the periodical performance of the System Suitability Test.

The software of the miniTOC online instrument enables the user to perform SST by himself by using the automatic procedure and data evaluation of the test.



## **MINITOC ADVANTAGES**

- BY TOUCH SCREEN FOR EASY HANDLING
- QUICK REACTION TIME
  - ✓ 2 SECONDS FOR ONLINE
  - ✓ 3 MINUTE FOR OFFLINE
- HIGH EFFICIENT OXIDATION USING LONG LASTING UV LAMP (12 MONTH)
- EASY TO CALIBRATE
- EASY TO REALIZE SST
- DATA VIEWER - ALL DATA ARE SAVED

**MINITOC THE PERFECT TOC DETECTOR FOR ONLINE PROCESS CONTROL AND LAB ANALYSIS FAST ACCURATE AND RELIABLE**



# TOC

## TOTAL ORGANIC CARBON ANALYZER

### TECHNICAL SPECIFICATIONS

#### Analysis

- method UV oxidation (partial); Conductivity (difference)
- 12V DC connector medical grade
- detection limit 0.1 ppb (online), 1 ppb (offline); accuracy 0.5ppb (online)/1 ppb (offline) or 1% whatever is greater
  
- measurement range 0,1 - 1000 ppb
- cell constant accuracy 1.5%
- temperature sensor : PT 1000
- temperature accuracy: +/- 0.25 K
- ports 1 for sample, 1 for SST (Basic)
- 1 for sample, 3 for SST (Professional)
- max. conductivity of sample < 2  $\mu$ S/cm (online) optional 30  $\mu$ S/cm
  
- sample volume flow 14 ml/min
- analysis time 2 sec
- inlet pressure <1 bar otherwise pressure reducer
- sample temperature 10 - 50 °C if more than heat exchanger
- particles < 100 micron
  
- norms USP 643 / DIN EN 1484 / Pharm EU 2.2.4 / CFR21 part 11

## Configuration

- Control internal PC, 8" TFT touch screen monitor
- Operating system Windows 7 embedded
- Software miniTOC control software for measurement, qualification, diagnosis
- Interfaces USB 2.0, analogue out (option)

## Operating Conditions

- Power supply 110 - 230 VAC, 50Hz
- Power consumption < 50 W
- Ambient relative humidity 10 - 95 %
- Altitude: up to 3500m

## Options

- Viewer software can be used on external PC for report and print of measured data
- Heat exchanger for water temperature > 50 °C

## Housing

- Dimensions (w x d x h) 300 mm x 200 mm x 500 mm
- Weight 14 kg
- Protection: IP 54

