

TECHNOLOGY

- High-temperature-combustion at 1,200°C
- No catalyst
- NDIR detection for CO<sub>2</sub>
- ECD detection for TNb (optional: CLD/NDUV detection for TNb)
- Analytical methods TC, NPOC, TNb (TOCdiff, POC/VOC, TIC)
- DIN EN 1484 (TOC) compliant  
DIN EN 12260 (TNb)
- 1 / 2 sample streams
- Cycle time TC/TOC <1 min
- No moving parts – valve system

ANALYTICAL PERFORMANCE

Measurement ranges: 0–10 ppm, 0–100 ppm,  
0–1.000 ppm, 0–10.000 ppm  
(optional: 0–100.000 ppm)

Limit of detection: 0,1 ppm

Cycle time TOC (NPOC): < 3 min.

Cycle time TC/TOC: < 1min.

Repeatability: ± 2 % end-of-range

TDS: up to 200 g/l (20% NaCl)

Particles: < 2.000 microns  
(optional: homogenizer and sample preparation)

PHYSICAL PROPERTIES

Weight: < 55 kg

Dimensions: 800 H × 600 W × 320 D mm

Power: AC110 – 230 V ±10 V  
50/60 Hz Approx. 600 VA

Carrier gas: CO<sub>2</sub> free instrument air

ENVIRONMENTAL CONDITIONS

Indoors: 2 – 45 °C

Relative humidity: < 85 % (no condensation)

Housing: IP 54, IP 65  
(optional: NEMA4X)

Ex p-Enclosure: Zone1 / 2, T3 and T4, ATEX & IECEx (available from 2021)

MAINTENANCE

- Predictive maintenance / self-diagnosis
- Regular monthly maintenance < 0,5 h/month
- Reactor life time > 3 years
- Self-cleaning and back-wash function
- Separated analytical and electronical compartments

COMMUNICATION

Display: 7“ Touch Panel

Supported protocols: OPC UA, Ethernet, Profinet, Modbus

Communication: Bluetooth, WLAN, GSM, 5G

Relays: 4 programmable - NAMUR standard

Languages: German, English, Japanese, Chinese, Korean



On-line TOC Analyzer

TOCADERO T1





On-line water analytics with  
**HORIBATOCADERO**

The TOCADERO T1 analyzer takes the evolution of modern online water analytics to the next level. The T1 analyzer platform combines sophisticated water analytics, stringent requirements in terms of accuracy and reliability, and the latest sustainable and future-proof hardware and software solutions. Based on the unique platform architecture of the TOCADERO T1, the range of available analytical parameters is being continuously expanded.

TOC & TNb analysis

The sum parameters TOC and TNb are some of the most important parameters in water and wastewater analysis. While the TOC (total organic carbon) provides information about the organic substance pollution in water, the TNb (total nitrogen bound) reflects the nitrogen pollution. The TOC is determined in accordance with DIN EN 1484 and the TNb in accordance with DIN EN 12260. The thermal oxidation at 1,200°C is particularly beneficial for determining both sum parameters.

- Detection of all organic compounds
- Quick and reliable detection of CO<sub>2</sub> using NDIR technology
- No catalyst
- Low use of chemicals

Next generation water analytics  
**IIoT / Industry 4.0**

Conventional systems used for water analysis are usually inefficient, not very intuitive and require a lot of maintenance. The comprehensive expertise at **HORIBATOCADERO** and intensive product development carried out with our industry partners means that the new TOCADERO T1 analyzer platform is already meeting the requirements of the future.



User-friendly,  
intuitive software



Precise status monitoring  
using cutting-edge sensors



State-of-the-art communication  
and interfaces



Status cockpits and  
predictive maintenance



Small footprint and  
low energy consumption



Reduced operating and  
maintenance costs



Wide range of applications

Our platform-based TOCADERO T1 analysis system is flexible enough to deal with the multifaceted nature of modern water analytics. It is suitable for ultrapure water in the ppb range, through to wastewater and saline process water. The appropriate method for the analysis of water depends on the composition of the sample. The TOCADERO T1 can always be adapted to suit your specific measurement requirements.

TOC, TNb, TC, CSB

TOC direct method  
(NPOC)

TOC differential method  
(TOC diff.)

Addition method,  
POC/VOC

The TOCADERO T1 can be used anywhere that requires the quick, accurate and reliable determination of TOC and TNb.

- Wastewater
- Process water
- Ultrapure water (pharma, WFI, UPW)
- Cooling water
- Boiler feed water
- Drinking water
- Surface water
- Seawater

The advantages at a glance



Highest analytical performance with a  
short measuring time



Catalyst-free high-temperature-combustion  
at 1,200°C with fast-change technology



Unique particle treatment capability  
up to 2 mm in diameter



Minimal consumable requirements and  
support costs



No memory effects thanks to inert,  
extremely smooth surfaces



Highest manufacturing quality  
“Made in Germany”



IIoT implementation / Industry 4.0



Convincing cost of ownership

