HORIBATOCADERO

TECHNOLOGY

- High-temperature-combustion at 1,200°C
- No catalyst
- NDIR detection for CO_2
- 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_2 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

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Version-No. E20003

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

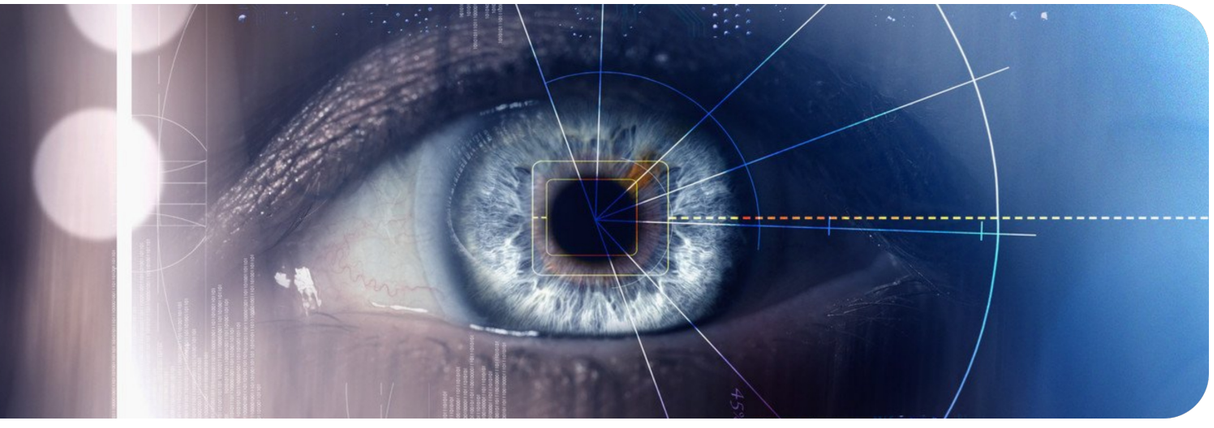
The sum parameters TOC and TNb are some of the most important parameters in water and wastewater analysis. While the TOC (total organic carbon) provides information about the organic substance pollution in water, the TNb (total nitrogen bound) reflects the nitrogen pollution. The TOC is determined in 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_2 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 softwarere
- Precise status monitoring using cutting-edge sensors
- State-of-the-art communication and interfaces
- Status cockpits and predictive maintenance
- Small footprint and low energy comsumption
- 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