

HORIBA



Online TOC Analyzer

TOCADERO ONE

Online water analytics with **HORIBATOCADERO**

The TOCADERO ONE analyzer takes the evolution of modern online water analytics to the next level. The 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 ONE, 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 1200 °C is particularly beneficial for determining both sum parameters.

- Detection of all organic compounds
- Quick and reliable detection of CO₂ 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 HORIBA Tocadero and intensive product development carried out with our industry partners means that the new TOCADERO ONE 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



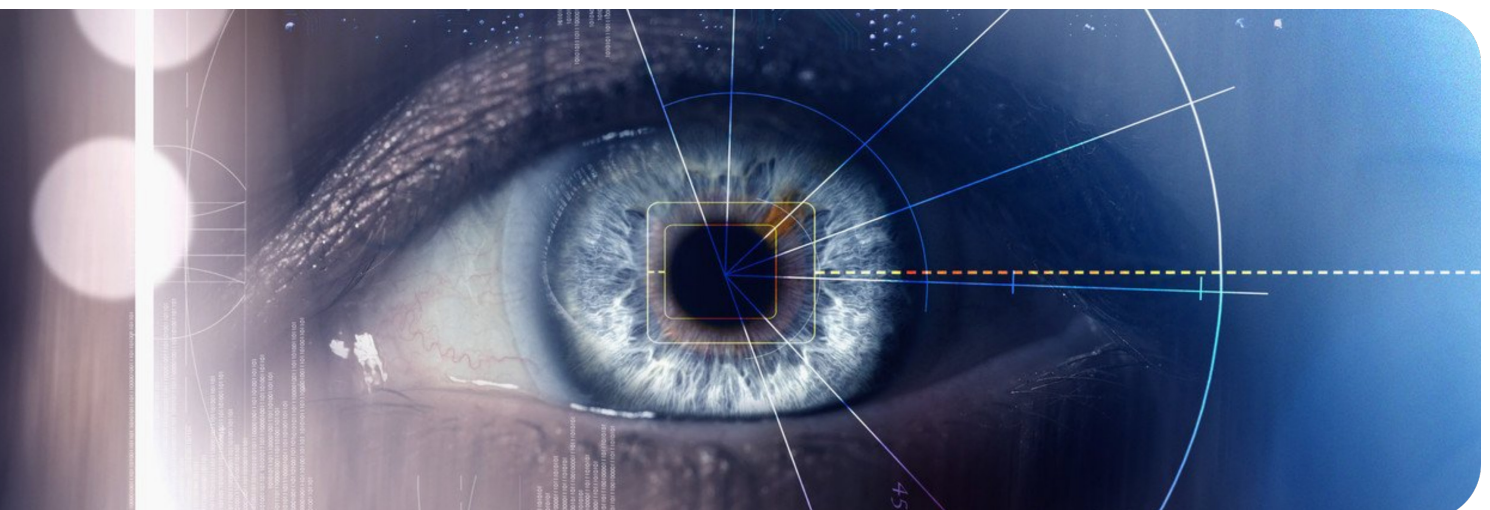
Status cockpits and
predictive maintenance



Small footprint and
low energy consumption



Reduced operating and
maintenance costs





Wide range of applications

Our platform-based TOCADERO ONE 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 ONE can always be adapted to suit your specific measurement requirements.

TOC, TNb, TC, COD

TOC direct method
(NPOC)

TOC differential method
(TOC diff.)

Addition method,
POC/VOC

The TOCADERO ONE 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 1200 °C
- ✓ Unique particle treatment capability up to 2 mm in diameter
- ✓ Minimal consumable requirements and maintenance 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

TECHNOLOGY

- High-temperature-combustion at 1200 °C
- No catalyst
- NDIR detection for CO₂
- ECD detection for TNb
(optional: CLD/NDUV detection for TNb)
- Analytical methods TC, NPOC, TNb
(TOCdiff, TOCadd, POC/VOC, TIC)
- DIN EN 1484 (TOC)
DIN EN 12260 (TNb)
- 1 or 2 sample streams
- Cycle time TC/TOC < 1 min
- No moving parts - valve system

PHYSICAL PROPERTIES

Weight: < 55 kg
Dimensions: 600 W × 320 D × 800 H mm
Power: 110 - 230 VAC ± 10 VAC
50/60 Hz approx. 600 Watt
Carrier gas: CO₂ free instrument air

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 electrical compartments

ANALYTICAL PERFORMANCE

Measurement Ranges

Low Range: 0 - 1 ppm or 0 - 10 ppm
Standard Low: 0 - 200 ppm
Standard High: 0 - 2000 ppm
High Range: 0 - 20000 ppm
Ultra High Range: 0 - 50000 ppm
Wide Range: 0 - 200 & 200 - 20000 ppm
Limit of Detection: 0,1 ppm
Cycle Time TOC (NPOC): < 3 min.
Cycle Time TC/TOC: < 1 min.
Repeatability: ± 2 % end-of-range
TDS: up to 200 g/L (20 % NaCl)
Particles: < 2000 microns
(optional: homogenizer and sample preparation)

ENVIRONMENTAL CONDITIONS

Indoors: 2 - 40 °C (optional 45 °C)
Relative Humidity: < 85 % (no condensation)
Housing: IP 54, IP 65
(optional: NEMA4X)
Ex p-Enclosure: ATEX, IECEx, Zone 1 / 2,
T3 and T4; Class I Div 2

COMMUNICATION

Display: 7" Touch Panel
Analog Outputs: 6 x 0/4 - 20 mA
Supported Protocols: OPC UA, Ethernet, Profinet,
Modbus
Communication: Wi-Fi, GSM, 5G options
Relays: 4 programmable - NAMUR
standard
Languages: German, English, French,
Italian, Japanese, Chinese,
Korean

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