

YKTOC-230D

Total Organic Carbon Analyzer



Product Introduction:

The TOC-230D utilizes the principle of high-temperature catalytic oxidation combined with NDIR detection (dry method) to measure TOC concentrations in water samples ranging from 0.05 mg/L to 35,000 mg/L. The water sample is introduced into a combustion furnace containing a high-performance oxidation catalyst, where it undergoes complete combustion and decomposition into carbon dioxide and water vapor at high temperatures. After passing through a condenser to remove the water vapor, the resulting carbon dioxide enters a Non-Dispersive Infrared (NDIR) detector. This process determines the concentration of Total Carbon (TC) in the water sample; the Total Organic Carbon (TOC) value is then calculated using the formula: $TOC = TC - TIC$.

Product Features:

- 12-inch touchscreen display: Provides a clear, visual representation of detection curves; features a user-friendly interface for simple and convenient operation.
- Strict component selection: Incorporates a high-reflectivity gold-plated gas cell, a high-intensity focusing NDIR infrared light source, and a high-sensitivity infrared detector.
- Versatile detection modes: Supports TC, TIC, TOC, and NPOC measurements, all of which can be performed within a single reactor.
- Advanced technologies: Features electromagnetic metering pump technology, a three-stage electronic condensation and dehydration system, an automatic overheat cutoff mechanism for



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the combustion furnace, and real-time monitoring capabilities for temperature, pressure, and flow rate.

- Optional auto-samplers: Available in 24-position, 30-position, and 81-position configurations to enable unattended operation, thereby saving both labor and time.
- Robust system architecture: The electrical circuitry and embedded software are paired with a high-performance embedded processor to ensure stable and reliable system operation.
- Modular design: The entire instrument features a modular structure, facilitating ease of operation, routine maintenance, and repair.
- Compliance: The product complies with EP (European Pharmacopoeia), USP (United States Pharmacopoeia), and the 2020 edition of the *Chinese Pharmacopoeia* standards; it also meets the ISO 8245 international standard, the HJ 501-2009 National Environmental Protection Standard, and the JJG 821-2005 Metrological Verification Regulation Standard. Technical

Specifications:

1. Analysis Method: High-temperature oxidation – NDIR detection principle
2. Measurement Modes: TC, IC, TOC, NPOC
3. Display: 12-inch color touchscreen with a user-friendly interface for simple and convenient operation
4. Digestion Method: High-temperature catalytic combustion oxidation
5. Detection Range: 0.05 – 35,000 mg/L
6. Accuracy: $\pm 3\%$
7. Repeatability: $\leq 2\%$
8. Salinity Tolerance: 85 g/L
9. Detector: NDIR
10. Operation Mode: Standalone (Host) or PC mode
11. The combustion furnace reaches a maximum temperature of 1200°C, significantly enhancing oxidation efficiency as well as detection accuracy and stability.
12. Equipped with an automatic sampler featuring a capacity of no fewer than 30 positions; the TOC analyzer controls the automatic sample switching process, enabling fully automated, unattended operation to conserve labor and resources.
13. Zero Drift: $\leq \pm 2\%/day$
14. Span Drift: $\leq \pm 2\%/day$
15. The instrument features an integrated automatic identification chip; users can access the "Smart Star" management system via automatic sensing or by scanning a QR code to access resources such as: instrument operating procedures and user manuals, factory inspection reports, relevant industry standards, operational tutorial videos, factory configuration lists, performance specifications, maintenance guidelines, a library of exercises on avoiding operational errors, and more.

Configuration List:

Main Unit (1), PC Software Package (1 set), 30-Position Automatic Sampler (1 set)