

FOR IMMEDIATE RELEASE

Shimadzu Introduces the TOC-1000e S On-Line Analyzer for Ultrapure Water Monitoring in Semiconductor Manufacturing

COLUMBIA, Md. (March 2, 2026) — Shimadzu Scientific Instruments introduces the TOC-1000e S on-line total organic carbon (TOC) analyzer, engineered to meet the increasingly stringent ultrapure water quality requirements of advanced semiconductor manufacturing. As semiconductor miniaturization continues to advance, even trace-level organic contamination in ultrapure water can directly impact process stability and yield, making precise, reliable monitoring of TOC essential. Conventional on-line TOC analyzers often struggle to detect hard-to-oxidize compounds such as urea, which can persist after purification and compromise fabrication processes. Developed with direct input from leading semiconductor manufacturers, the TOC-1000e S analyzer addresses these challenges by delivering enhanced sensitivity and real-time monitoring capabilities tailored to next-generation fabrication environments.



Features of Shimadzu's TOC-1000e S on-line total organic carbon analyzer include:

Superior Detection Sensitivity for Hard-to-Oxidize Compounds

The TOC-1000e S analyzer exposes samples to high-energy shortwave light generated by an excimer lamp using Shimadzu's proprietary Active-Path configuration. This approach enables high-sensitivity detection of urea and other difficult-to-oxidize organic compounds, promoting more accurate assessment of ultrapure water quality.

Real-Time Monitoring for Rapid Contamination Response

Designed for continuous operation, the analyzer employs a simplified flow path that connects the excimer lamp and conductivity detector in series. This configuration enables real-time monitoring and rapid identification of contamination events, helping manufacturers respond quickly to potential sources of defects.

Compact Design for Easy Installation and Use

Weighing approximately 3 kg, the compact TOC-1000e S analyzer is suitable for benchtop, wall or pipe-mounted installation. A side-mounted vial sampler allows on-site calibration, while portability enables it to be easily moved between measurement points or used as a backup analyzer. A large display, intuitive user interface and color-coded status indicators support efficient daily operation, data review and maintenance.

Simplified Operation and Maintenance

Maintenance requirements are minimized through front-accessible components, including the excimer lamp and pump head, which can be replaced without tools. Optional vial samples and certified standard solutions enable on-site calibration and validation, while a stability check function supports verification after relocation or maintenance.

Flexible Data Handling and Connectivity Options

Measurement data can be exported via USB in CSV or PDF formats, transmitted through analog outputs or issued as warning and event signals. Network connectivity allows users to monitor data remotely through a standard web browser without dedicated software.

For more information, visit the [TOC-1000e S On-Line Total Organic Carbon Analyzer web page](#).

About Shimadzu Scientific Instruments Inc.

Shimadzu Scientific Instruments (SSI) is the North American subsidiary of Shimadzu Corporation's Analytical and Measuring Division. Headquartered in Columbia, Maryland, SSI offers a comprehensive portfolio of analytical and testing solutions for a broad range of applications in science and industry. SSI maintains a network of ten regional offices strategically located across the United States, with experienced technical specialists, service providers and sales engineers situated throughout the country. In addition, SSI operates a Solution Center, designed to enable applications development, and an R&D Center that houses a team of scientists whose goal is to develop close collaborations with universities, government agencies and industry centers. Visit www.ssi.shimadzu.com for more information.