

# Torch

## Specifications

Chemistry:	Oxidation by Combustion: From 680°C - 1000°C
TOC Detector:	Nondispersive Infrared (NDIR) with Static Pressure Concentration (SPC) – Patent-Pending
TN Detector:	PMT Chemiluminescence Detector
TOC Analytical Modes:	TOC (NPOC), TC-IC, TC, IC
TOC Analytical:	Limit of Detection: 50ppb Maximum Measurable Concentration: 30,000ppm Carryover: ≤ 1.0% Cross Contamination Sample Size: 100µl to 2.0mL Precision*: ≤1.5% RSD, ±15ppb, typical of a mid range standard (Whichever is greater over seven replicates).** * Analytical performance is affected by laboratory water, reagent and gas purity, sample container cleanliness, sample matrix, gas regulator cleanliness and precision, and operator skill. ** %RSD Area, as opposed to %CV, calculates precision after blank subtraction. This yields a lower precision measurement, but improves sensitivity and accuracy.
TOC Analysis Time:	5-6 minutes typical for TOC analysis: 29 minutes typical for triplicate TOC analysis
TN Analytical Modes:	TN, TC/TN, TOC (NPOC)/TN, TC-IC/TN
TN Analytical:	Limit of Detection: 50ppb Maximum Measurable Concentration: 2,000ppm Carryover: ≤ 1.0% Cross Contamination Sample Size: 100µl to 2.0mL Precision*: ≤1.5% RSD, ±15ppb, typical of a mid range standard (Whichever is greater over seven replicates).** * Precision specification for the following standards: Ammonium Chloride, Ammonium Nitrate, Potassium Nitrate and Urea. Analytical performance is affected by laboratory water, reagent and gas purity, sample container cleanliness, sample matrix, gas regulator cleanliness and precision, and operator skill. ** %RSD Area, as opposed to %CV, calculates precision after blank subtraction. This yields a lower precision measurement, but improves sensitivity and accuracy.
TN Analysis Time:	7-8 minutes typical for TOC/TN analysis: Approximately 30 minutes typical for triplicate TOC/TN analysis
Carrier Gas Handling:	Mass Flow Controller for instant control of carrier gas (0-500mL/min). Automatic Leak Check capability.
Liquid Handling:	Syringe pump, 7-port distribution valve. Auto-dilution capability for higher TOC concentrations and difficult matrixes. Patented self-cleaning sample handling process that cleans Injection Line on every repetition.
Sample Introduction:	Integrated Autosampler
Controller:	PC, Interface through Windows™ XP and Vista Options: Integrated PC, Touch Screen monitor display and attached Multi-Rotational Arm
Data Handling:	Reports exportable XML, CSV, and HTML format Real-time and historical graphical display of NDIR & CLD detector data Ability to view historical results from multiple schedules on one graphical display. Ability to store customized individual test methods Priority samples via schedule interrupt Recalculation of data, outlier deletions, and precision performance criteria controls (21 CFR Part 11 compliance – Electronic signatures and Audit Trails)
Calibration:	Auto-Calibration from Single Stock Standards or User Calibration Standards
21 CFR Part 11 Software Compliance:	Teklink™ TOC Software is a 21 CFR Part 11 tool for your laboratory compliance
Other Features:	- Pre-programmed point and click method set-up - Instrument condition light - Built-in PC Standalone feature with Touch Screen attached to instrument - Validation Support Package available - Automatic shutdown/standby - Auto-dilution of samples/standards - ASM Sparge methods - Stirring Option - TN Module
Principal Applications:	Waste Water, Industrial Waste Effluent, Drinking and Surface Water, Ground Water, Clean-in-place (CIP) Validation, Sea Water, Brine Solutions
Official Methods:	EPA 415.1, 415.3 and 9060A, Standard Method 5310B, EP 2.2.44, ISO 8245, EN 1484, USP 643 (Chapter 24), ASTM D2579, prENV 13370, AOAC 973.47, (TNb option – DIN-ISO 11905-2, EN-12260)
Certification:	CE, EMC EN 50081-1 and EN 50082-1
TOC Utility Requirements:	Voltage: 100/120/240 VAC (±10%) factory configured, Frequency: 50/60 Hz, Power: 1200VA
TN Utility Requirements:	Voltage: 100/120/240 VAC (±10%) factory configured, Frequency: 50/60 Hz, Power: 300VA
TOC Dimensions:	18" W x 24.5" D x 32" H, Shipping weight 147lbs
TN Dimensions:	8" W x 20" D x 18" H, Shipping weight 50lbs
TOC Gas Supply:	Hydrocarbon and Carbon Dioxide (CO <sub>2</sub> ) free air with TOC content <1ppm or UHP O <sub>2</sub> . Gas can be supplied from a cylinder or TOC gas generator. If a TOC gas generator is used, resulting gas must be hydrocarbon and water free. To assure clean carrier gas is used, we suggest employing a complete CO <sub>2</sub> removal system and hydrocarbon trap (Teledyne Tekmar part # 14-1362-000) between the gas source and analytical instrument.
TN Gas Supply:	High Purity Oxygen, 99+%
TOC Gas Inlet Pressure:	65 to 100 psi
TN Gas Inlet Pressure:	30 to 35 psi
Autosampler:	- Accuracy: ±2.5mm - Vertical punch strength: 8.3lbs - Repeatability: ±0.25mm - Auto-rinsing from sample and/or rinse water via built-in rinse station
Rack Selection:	(All rack selections come with (4) positions in the center of the rack for 125mL bottles) - 75 position; 40mL VOA vials - 90 position; 55mL test tubes - 75 position Mixing; 40mL VOA vials - 120 position; 20mL test tubes