



Total Organic Carbon (TOC) Analyzer

Analytical Instruments



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Profile

Zhejiang Tailin Analytical Instrument Co., Ltd is a wholly-owned subsidiary of Zhejiang Tailin Bioengineering Co., Ltd.

It is committed to the R&D of analytical instruments, meters, and sensors widely used in pharmaceutical, environmental protection, electronics, and power plant fields.

The main products include the TOC analyzer, Filter Integrity Tester, Water Activity Tester, and headspace oxygen analyzer. They meet the requirements of Chinese Pharmacopoeia, USP, EP, and JP.

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TOC Analyzer HTY- DI1500

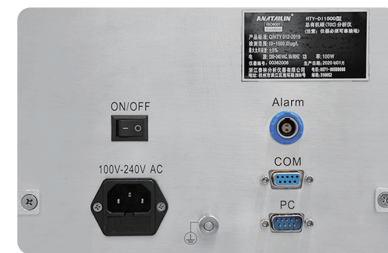
Designed for TOC detection of purified pharmaceutical water and Water For Injection (WFI).



Front View



Side View

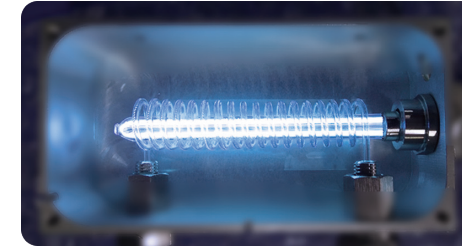


Back View

Technical Parameters

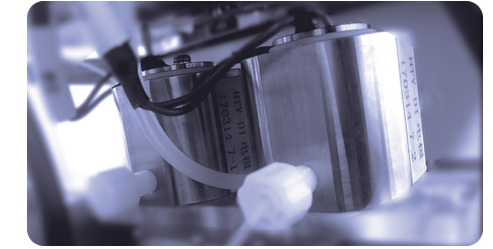
Scope of test:(0-1500.0)µg/L	Recommended range of water sample conductivity:(0-5.1) µS/cm@25°C
Power supply:(100-240) VAC	Testing time:3 min
Rated power:100W	Response time:within 6 min
Calibration period:12 months	Ambient temperature:10°C - 40°C
Indication error:±5%	Repeatability standard deviation (RSD):≤2%

Features



Dual wavelength UV oxidation + Direct conductivity detection

Excellent reproducibility and long calibration period.



Dual sensor configuration

Total Carbon(TC) and Total Inorganic Carbon(TIC) dual sensor configuration can effectively eliminate the interference of inorganic carbon.



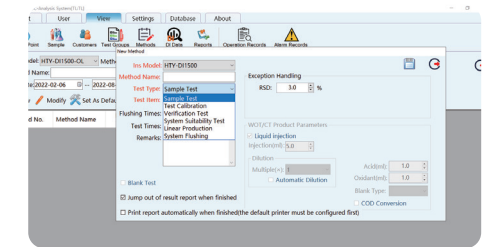
SQL database

Improve the user's work efficiency, realize intelligence and automation.



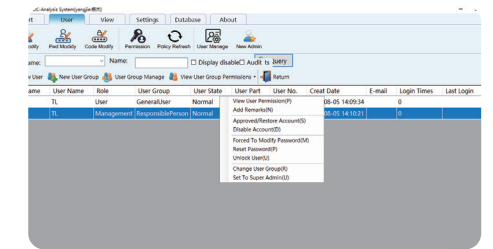
Consumables are easily replaced

Low maintenance cost, simple and convenient.



Multiple built-in test methods

Users can quickly operate built-in methods with professional algorithms to ensure good data repeatability.



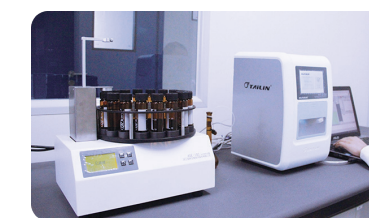
Data Integrity

Fully comply with GMP and 21 CFR Part 11 requirements for electronic data integrity with four levels of password authority, audit trail function, and various forms of backup.

Applications

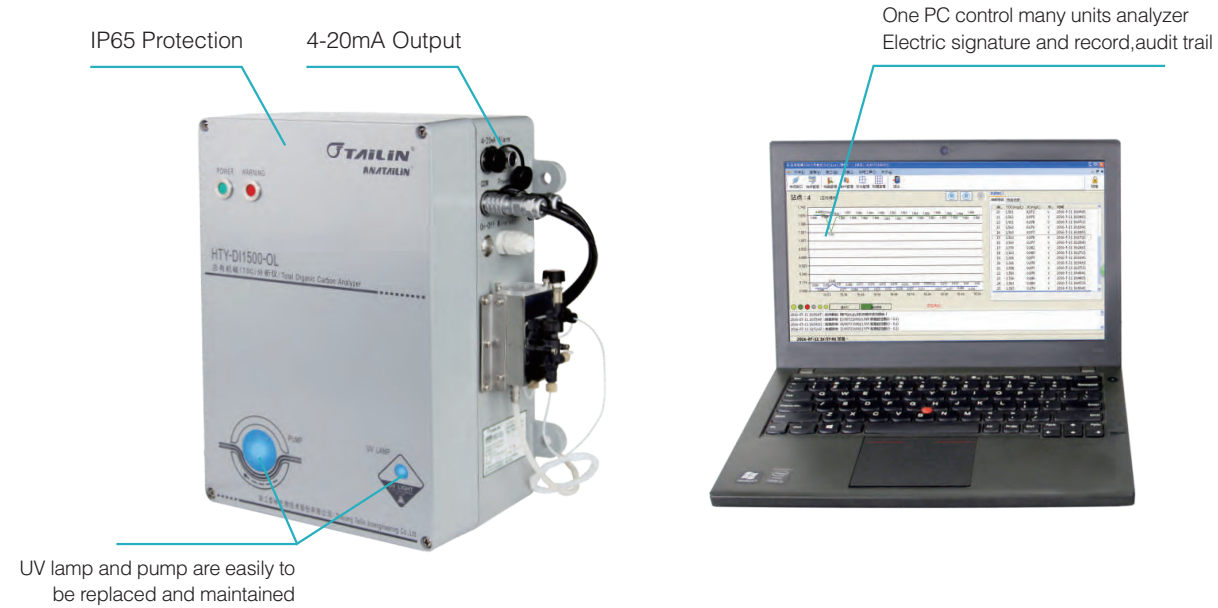


Thermal power industry



Pharmaceutical industry

TOC Analyzer HTY- DI1500 - OL



Side View



Back View



Front View

Technical Parameters

Detection range:(0-1500.0)µg/L	Recommended range of water sample conductivity:(0-5.1)µS/cm @25 °C
Power supply:(100-240) VAC	Testing time:3 min
Rated power:100W	Ambient temperature:(10-60) °C
Indication error:±5%	Repeatability: ≤2%
Size:24cmx34cmx16cm	Sample temperature:(1-95) °C

Features



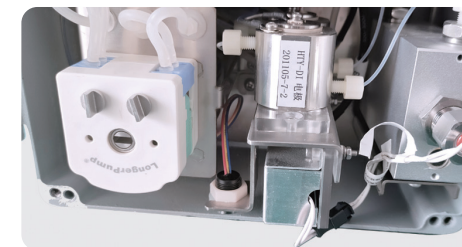
Various control methods available

Controlled by PC or IPC.
Suitable for various work scenarios, conforming to stand-alone data integrity, and linked to MES systems via transmitters.



Remote data transmission

Multi-signal output, such as analog signal and digital signal, which can be linked with water system.



Disassembly-free design

Easy to operate and maintain.



Flexible installation

Wall-mounted, clip-on, desktop, embedded and other installation methods can be selected.



Multi-channel transmitter

It can realize data transmission of temperature, TOC value, conductivity, PH value, dissolved oxygen, etc.

Instrument Information

Instrument Name: Total Organic Carbon (TOC) Analyzer
Instrument Model: HTY-DI1500-OL Instrument No.: 02991706

Test Data

Test No.	Sample No.	Name	Concentration (ppb)	TOC Test Data(ppb)	Avg (ppb)	RSD (%)
TS202003180012	SA202003180000	Pure water	0	83.9 87.5 85.3	85.6	/
TS202003180013	SA202003180002	Sucrose	500	605.2 601.6 612.9	606.6	1.0
TS202003180014	SA202003180003	Benzoinone	500	608.7 604.8 607.5	607.0	0.3

Result(Qualified Interval: 85%-115%)

System Suitability:100.1%
- The Following Blank -

Data Integrity

Fully comply with GMP and 21 CFR Part 11 requirements for electronic data integrity with four levels of password authority, audit trail function, and various forms of backup.

Applications



Detect the Total Organic Carbon in Water For Injection (WFI), ultra purified water of pharmaceutical and semi-conductor industries; Deionized (DI) water of power plant.

TOC Analyzer HTY- WOT100

For cleaning validation.



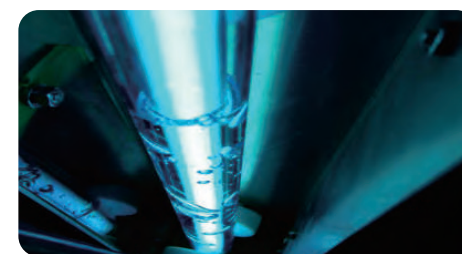
Side View

Back View

Technical Parameters

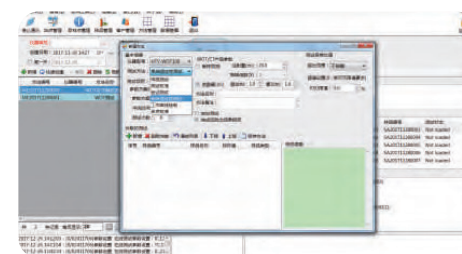
Detection range:(0-100.0) mg/L	Weight:53Kg
Power supply:(100-240)VAC 50/60HZ	Testing time:4 min
Rated power:300W	Ambient temperature:(10-40)°C
Indication error:±5% TC±5% IC±4%	Repeatability standard deviation (RSD):≤2%
Size:55cmx45cmx53cm	Sample temperature:(1-95)°C

Features



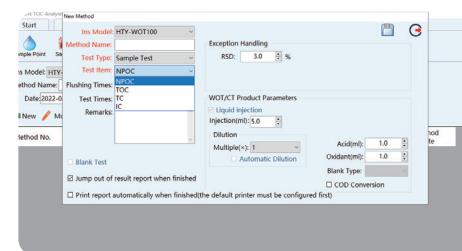
Good quality components

UVlamp+Sodium Persulfate oxidation.
 NOIR detector, stable period is more than 6 months after calibration.
 (Subject to Sytem Suitability Test).
 UV lamp lifetime:5000hours or one(1) year, which is earlier.
 High precision injection pump.



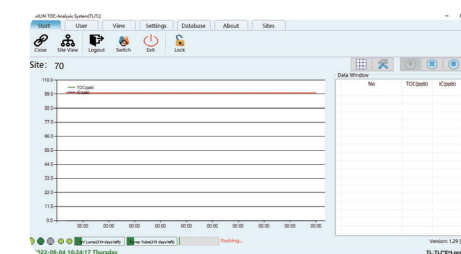
Calibration,Validation

System suitability test.
 IQ, OQ, PQ follow ICH guidelines.
 Follow EP<2.2.44>, USP643.
 Built-in calibration procedure for single point/multi-point calibration.



Dual sensor configuration

It can measure TC, IC, NPOC, TOC.



Data safety and integrity

Data report: can be exported by Ethernet.
 Report format: PDF, EXCEL, JPG.
 Database: Maria DB, protocol open to LIMIS system.
 3-level access control and audit trail.
 Comply with 21CFR part 11.



Consumables are easily replaced

The main consumables are phosphoric acid and sodium persulfate solution.
 Low maintenance cost, simple and convenient.



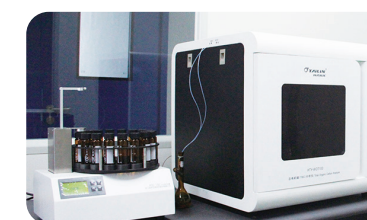
With eight-channel rotary valve

It can measure purified water, water for injection, drinking water, surface water.
 It can measure water samples like acid, alkali and salt water.

Applications



Cleaning validation (TOC Method)



Injection water testing

Detect the Total Organic Carbon in Water For Injection (WFI), ultra purified water of pharmaceutical and semi-conductor industries; Deionized(DI) water of power plant.

TOC Analyzer HTY-CT1000B

Adopt (680-1200) °C high temperature combustion oxidation method + non-dispersive infrared (NDIR) detection.



Front View



Back View

Based on the 1200 °C catalytic combustion oxidation principle, the sample and purified gas (high purity oxygen) will be transferred into the high-temperature combustion and low-temperature reaction tubes.

The samples that pass through the high-temperature combustion tube are oxidized, then both the organic carbon and inorganic carbon are converted to carbon dioxide. The samples that pass through the low-temperature reaction tube are acidified, and the inorganic carbon is decomposed into carbon dioxide.

The carbon dioxide produced in the two reaction tubes is transferred to the non-dispersive infrared gas detector NDIR in turn by carrier gas transportation, and the CO₂ is detected. In this way, the total carbon (TC) and inorganic carbon (IC) in the water are measured separately.

The difference between total carbon and inorganic carbon is total organic carbon (TOC). That is TOC=TC-IC.

Technical Parameters

Detection range:(0-30000.0)mg/L(Diluted state)	Test items:TC/IC/TOC/NPOC
Ambient temperature:(5-40) °C	Resolution:0.001mg/L
Relative humidity:(10-85) °C	Repeatability standard deviation (RSD): ≤3%
Power supply:(220±10%)VAC Reliable grounding is required	TC indication error:±0.1%F.S or ±5% (Whichever is bigger)
Power:1200W when the electric furnace heats up	IC indication error:±0.1%F.S or ±4%(Whichever is bigger)
Detection method:Non-dispersive infrared absorption method(NDIR)	Linear:R ² ≥99.9%
Furnace temperature:(680-1200) °C	Injection volume:(0.1-0.5)mL
Testing time:(1-4)min	Detection method:Online/Offline
Size:62cmX45cmX49.5cm	Sample temperature:(1-95) °C

Features



Solid combustion module

Optional solid combustion module can test solid samples such as soil and degradable plastics.



Manual/Automatic injection

Manual injection and automatic injection for choice. Follow GMP computerized system verification.



Combustion furnace has multiple protections

Independent circuit overheating protection: When overheating, it can automatically cut off heating to protect product safety.



With eight-channel rotary valve

The internal circuit can be cleaned according to the operation requirements, reducing the maintenance time of the instrument and increasing the service life of the instrument.



Electronic dual cooling module and membrane dehydration technology

Ensure the dehydration efficiency of the entire system to protect the NDIR detector.



Can be tested online with auto sampler

Realize intelligence, automation, and improve work efficiency.

Applications



Soil detection (university)



Plastic inspection (Quality Inspection Institute)

TOC Analyzer HTY-CT1000B can detect all kinds of sewage, garbage permeate, sludge, etc. in the environmental protection industry; it can monitor all kinds of degradable materials, composition, etc.

TOC Analyzer HTY- CT1000S

Built-in Industrial PC



Technical Parameters

Detection range: (0-30000.0)mg/L(Diluted state)	Test items:TC/IC/TOC/NPOC
Ambient temperature:(5-40)°C	Resolution: 0.001mg/L
Relative humidity:(10-85)°C	Repeatability standard deviation (RSD):≤3%
Power supply: (220±10%)VAC Reliable grounding is required	TC indication error: ±0.1%F.S or ±5% (Whichever is bigger)
Power: 1200W when the electric furnace heats up	IC indication error: ±0.1%F.S or ±4%(Whichever is bigger)
Detection method: Non-dispersive infrared absorption method(NDIR)	Linear: R2≥99.9%
Burner temperature: room temperature -1000 °C , limit temperature 1200 °C	Injection volume: liquid (0.1-1)mL solid: 10mg-1g
Testing time:3 min	Optional solid device: SSE-10000 solid burning device

Features



Two modes available

Stand-alone (no PC required) and PC-based software (PC required).



Extensive accessory expansion

Optional solid combustion units, TN units, COD modules and enhanced halogen removal modules are available.



HD TFT color LCD touch screen

10-inch capacitive screen, friendly operation interface, high resolution.



High sensitivity, high oxidation capacity, high sample compatibility

There is an ultra-wide sample measurement range, as well as higher oxidation and detection capabilities.



Disassembly-free maintenance design

Convenience and low cost.



Can be tested inline with an automatic sampling device

Intelligent, automated and efficient.

Applications



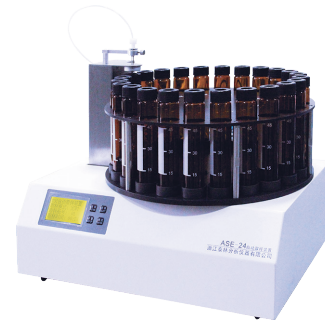
- ✓ Electrolyte solution TOC
- ✓ Electroplating solution TOC
- ✓ Soil TOC
- ✓ Environmental sewage TOC
- ✓ Solid materials TOC

Autosampler ASE Series

Complete the sampling process with a total organic carbon (TOC) analyzer



✓ ASE -70A



✓ ASE - 24

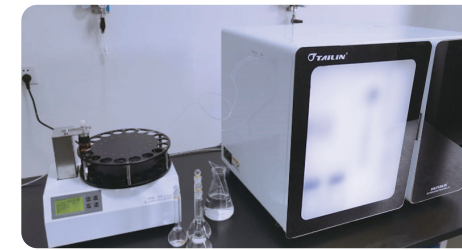


✓ ASE - 18C

Technical Parameters

Model:	ASE -70A	ASE - 24	ASE - 18C
Rated power:	85W	40W	40W
Sample requirement:	40ml brown bottle with mat	60ml brown bottle with mat	40ml brown bottle with mat
Ambient RH:	≤ 85%	≤ 85%	≤ 85%
Size :	30cmx50cmx45cm	31cmx28cmx28cm	31cmx24cmx28cm
Test range:	Timed or Online	Timed or Online	Timed or Online
Analysis time:	within 6min	within 6min	within 6min
Ambient temperature:	10°C - 40°C	10°C - 40°C	10°C - 40°C
Sample temperature:	(1-99)°C	(1-99)°C	(1-99)°C

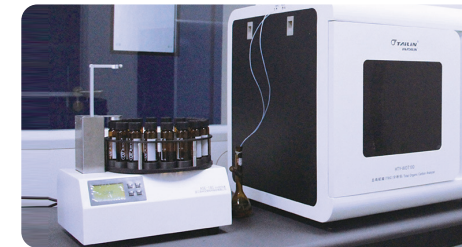
Features



Simple, fast and reliable Users do not need professional knowledge and special training.



Multiple online modes are available Realize synchronous analysis with TOC analyzer.



No staffing required for sample testing.



Automatically determines the presence or absence of sampling vials, reducing air intake and testing time.



Long-term stability and reliability without special routine maintenance.



When startup, the zero point position of the turntable is automatically adjustment to avoid displacement errors.

Applications

Used together with Tailin TOC analyzers to achieve automatically sampling

- ✓ Laboratory off-line testing for cleaning validation of pharmaceutical water (purified water, water for injection).
- ✓ Water sample analysis for environmental protection, electronics, food and other industries.
- ✓ Special feeding use of precision analytical instruments in laboratories for scientific research, universities, etc.