

MODEL U1600-L

LABORATORY TOC ANALYZER

Accurate, reliable, and Easy-to-Use TOC Analysis for Laboratory and Quality Control Applications

The Blue Dragon U1600-L is a benchtop laboratory TOC analyzer that uses UV oxidation and differential conductivity detection to deliver precise, low-level TOC measurements. Designed for laboratory and quality control environments, the U1600-L provides fast, accurate results with advanced data integrity and intuitive operation.



WHY CHOOSE THE MODEL U1600-L



Accurate & Sensitive

1 µg/L detection limit and ±3% accuracy for reliable low-level TOC results.



UV Oxidation + Conductivity

Reagent-free UV oxidation with differential conductivity detection.



1-1600 ppb Range

Wide dynamic range for versatile laboratory applications.



Fast Analysis

Approximately 3-minute analysis time for high productivity.



Data Integrity Functions

Multi-level access, audit trail, electronic signatures, and secure data.



Easy to Use

7-inch touchscreen with intuitive interface and built-in printer.

APPLICATIONS



Laboratory & QC
Routine TOC analysis for quality control and R&D labs.



Pharmaceutical
PW, WFI, process water, and cleaning-validation rinse samples.



Purified Water
PW and WFI testing to support product quality.



Electronics
Ultrapure and DI water for electronic manufacturing.

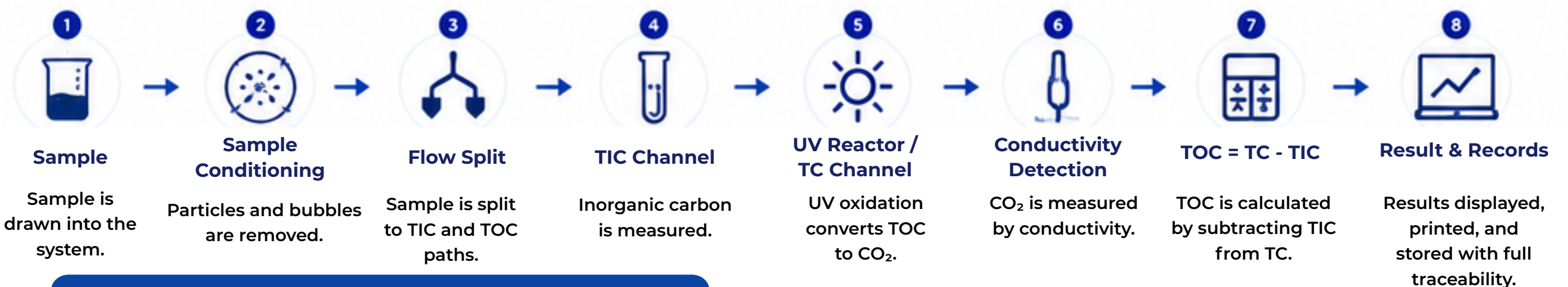


Industrial Processes
Approved low-conductivity industrial water applications.



Education & Research
Academia, research institutes, and training laboratories.

HOW IT WORKS



3



Flow Split

Sample is split to TIC and TOC paths.

4



TIC Channel

Inorganic carbon is measured.

5



UV Reactor / TC Channel

UV oxidation converts TOC to CO₂.

6



Conductivity Detection

CO₂ is measured by conductivity.

7



TOC = TC - TIC

TOC is calculated by subtracting TIC from TC.

8



Result & Records

Results displayed, printed, and stored with full traceability.

TECHNICAL SPECIFICATIONS

Measurement Principle	UV oxidation with differential conductivity detection
Measurement Range	0.001–1.6000 mg/L carbon (1–1600 µg/L; 1–1600 ppb)
Detection Limit	0.001 mg/L (1 µg/L; 1 ppb)
Resolution	0.001 mg/L (1 µg/L; 1 ppb)
Accuracy	±3%
Repeatability	≤3%
Analysis Time	Approximately 3 minutes per test
Conductivity Range	0–10 µS/cm
Sample Temperature	1–70 °C
Sample Source	Clean, non-pressurized sample bottle or container
Sample Volume	At least 300 mL for routine operation, unless stated otherwise
Storage	16 GB; more than 1,000,000 records
Interfaces	RS232, RS485 and USB
Display	7-inch colour touchscreen
Print Output	Integrated English report printing
Power Supply	220 VAC; confirm delivered nameplate voltage and frequency
Dimensions	370 × 350 × 220 mm
Operating Environment	10–40 °C; relative humidity ≤85%; avoid condensation
Compliance	Supports USP <643>, Ph. Eur. 2.2.44 and applicable ChP



BUILT FOR LABORATORY EXCELLENCE

- ✓ Reliable, reagent-free TOC analysis
- ✓ Precise low-level TOC detection
- ✓ Supports regulated data-integrity workflows
- ✓ Intuitive touchscreen and built-in printer
- ✓ Designed for laboratory and QC environments

