

Portable Biotoxicity Analyzer

ATE3020

Features

- Compact & portable, quick operation
- Highly sensitive to heavy metals/organics
- Long battery life, USB charging
- ATP-compatible, multifunctional
- Human-toxicity-range sensitivity
- USB/WiFi/Bluetooth printing support
- Pollution mapping for fast contamination locating
- Full-touch display with APP navigation.

Applications

- Water Source Early Warning (Water Supply Companies)
- Water Quality Emergency Control (Hydrological Stations)
- Emergency Biotoxicity Detection Environmental Governance
- Aquatic Toxicology Research
- Rapid Aquaculture Toxicity Screening Emergency Water Toxicity Screening Rapid Unknown Substance Analysis
- Biotoxicology & Luminescent Bacteria Research
- Public Interest Litigation Forensics
- Traditional Benchtop & Portable Field Spectrometers

Description

ATE3020 Portable Water Biotoxicity Analyzer is designed for rapid on-site and field measurement of overall water toxicity. Using the standardized luminescent bacteria method (compliant with GB/T15441-1995 and ISO 11348-3), it features simple operation, fast response, high sensitivity, and multi-substance combined toxicity detection for quick water safety assessment. Widely used in environmental pollution warning, emergency monitoring, water biotoxicity screening, and biological research.

Measurement Principle:

Comprehensive Toxicity Monitoring: Luminescent bacteria as biosensors measure luminescence reduction to assess sample toxicity.

Total Biomass Detection: ATP bioluminescence method.

Features: Compact and robust, highly portable. Wide detection range, high sensitivity, versatile interfaces, intelligent operation. IP65-rated dust/water resistance for harsh environments.

Model	Descrip
ATE3020	Portable Biotoxicity Detector



1. Parameter

ATE3020	
Spectral Range	300-1100nm
Types of Detectable Toxic Substances	Over 5000 types
Fastest Detection Time	5 minutes
Relative Luminescence Intensity	0-65535 RLU
Inhibition Rate	-100% ~ 100%
Clear Water Luminescence Inhibition Rate	W ± 5%
Bacterial Storage Temperature	Can be stored for one year at -18°C
Detection Range	Acute toxicity caused by heavy metal ions, pesticides (such as organophosphates), and other organic/inorganic toxic substances.
Precision	Relative standard deviation <10% (2mg/L ZnSO ₄ ·7H ₂ O); when measuring actual water samples, the absolute value of relative deviation <±15%, and the toxicity range of non-toxic water samples W<15%.
Applicable Bacterial Strains	Vibrio qinghaiensis, Photobacterium phosphoreum (compliant with GB/T15441-1995) or Vibrio fischeri (compliant with ISO 11348-3).
Communication Interface	USB, Bluetooth, WiFi, 4G, etc., supports direct data printing via Bluetooth printer connection.
Data Storage	Storage capacity 4GB (expandable), capable of storing over 100,000 sets of data.
Software Platform	Android Intelligent Operating System
Continuous Operating Time	More than 24 hours.
Protection Level	IP65 dustproof and waterproof.
Operating Ambient Temperature	5°C ~ 40°C
Operating Relative Humidity	10% ~ 90%

2. Packing List

No.	Item	Quantity	Optional
1	Protection Case	1	Standard
2	Freeze-dried Luminescent Bacterial Powder	1	Standard
3	Built-in Printer	1	Standard
4	Analysis Main Uni	1	Standard
5	Rehydration Dilution Solution	1	Standard
6	Low-temperature Portable Insulated Container	1	Standard
7	USB Charger	1	Standard
8	Pipettor	1	Standard
9	Positive Quality Control Sample	1	Standard
10	Test Tube	1	Standard
11	Osmotic Pressure Adjustment	1	Standard