

FULL AUTOMATIC BIODIESEL OXIDATION STABILITY



Full Automatic Biodiesel Oxidation Stability TT-14112A

Full Automatic Biodiesel Oxidation Stability TT-14112A is our domestically developed instrument with independent intellectual property rights and is a crucial tool for testing biodiesel.

TT-14112A fills the gap in domestic production capabilities and conforms to the EN 14112 standard for Fat and Oil Derivatives — Fatty Acid Methyl Esters (FAME) — Determination of Oxidation Stability (accelerated oxidation test). It is used to determine the oxidation stability of fatty acid methyl esters (FAME) at 110°C. The overall system performance of the TT-14112A is compatible with Unix operating systems, with some features offering enhanced performance.

APPLICATIONS

The primary application of the Full Automatic Biodiesel Oxidation Stability TT-14112A is to determine the oxidation stability of biodiesel, specifically Fatty Acid Methyl Esters (FAME), using an accelerated oxidation test.

The apparatus operates in full compliance with the EN 14112 standard to measure how resistant the biodiesel is to degradation under controlled conditions. This is a crucial quality control parameter to ensure the fuel remains stable during transportation, storage, and use.

Key Industries

This specialized tester is essential for quality assurance and research in the renewable fuels sector and related industries:

- **Biodiesel Production:** The core industry for this instrument. Producers must test every batch to certify that it meets EN 14112 and other international quality standards before it can be sold.
- **Biofuel Research and Development (R&D):** Used to evaluate the stability of new biodiesel formulations made from different feedstocks and to test the effectiveness of various antioxidant additives.

- **Petroleum Refining and Fuel Blending:** When biodiesel (FAME) is blended with conventional petro-diesel, this tester is used to assess the oxidation stability of the final blended fuel product (e.g., B5, B7, B20).
- **Third-Party Testing Laboratories:** Independent labs use this equipment to provide analytical and certification services to biodiesel producers, distributors, and large-scale consumers.
- **Engine Manufacturing and Fleet Operations:** Large engine manufacturers and fleet operators (e.g., trucking, marine) may test fuel stability to prevent issues like filter plugging, injector fouling, and engine deposits.



FEATURES

- We designed the apparatus strictly according to the EN 14112 Standard, used for testing the oxidation stability of biodiesel.
- Conforms to EU standards.
- Equipped with a digital PID temperature controller, the temperature control range is from room temperature to 150°C, with a precision of $\pm 0.1^{\circ}\text{C}$.
- Features a dedicated heating band, providing enhanced safety and environmental benefits.
- Includes a dedicated diaphragm pump with precise flow control and a constant flow rate.
- A unique air filtration system ensures multiple gas pipes are unblocked and provides a reliable air source.
- The conductivity meter measures data in real-time, and a large-screen liquid crystal industrial PC automatically records and stores data. It processes multiple input channels and can display the oxidation process of grease and the conductivity of the induction period in real-time.
- Display mode: Digital.
- Work stations: Four.
- Each sample has single control, automatically set according to requirements.
- Two samples are controlled separately, convenient for parallel testing.
- Two temperature control systems allow the user to set temperatures independently.

TECHNICAL SPECIFICATIONS

1. Applicable Standard: EN 14112
2. Temperature Control: PID digital temperature controller
3. Air Source: Dedicated diaphragm pump, 10 L/H
4. Temperature Control Method: Electrical heating rod

5. Working Temperature: Room temperature to $150^{\circ}\text{C} \pm 0.1^{\circ}\text{C}$
6. Test Time: Approximately 14 hours
7. Rated Voltage: AC 220V $\pm 10\%$, 50Hz (110V also available)
8. Result Processing: PC automatically measures and stores data



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