

JK9870A

Fully Automatic Kjeldahl Analyzer

v25.1.01

The Kjeldahl method is a classic technique for determining nitrogen. It is widely used for the measurement of nitrogen in soil, food, livestock, agricultural products, feed, and other nitrogen-containing compounds. The process for sample analysis using this method involves three main steps: sample digestion, distillation and separation, and titration analysis.

Our company is one of the creators of the national standard GB/T 33862-2017 for "Fully (Semi) Automated Kjeldahl Nitrogen Analyzer." Therefore, the Kjeldahl analyzer series products we develop and manufacture comply with both the GB standard and relevant international standards.



Light intensity auto adjustment

The patented technology features an automatic adjustment system for the intensity of red, green, and blue (RGB) lights based on the color concentration of the absorption solution, ensuring adaptability to different operating environments.



304 stainless steel steam generator

Offers reliable performance, high pressure resistance and a long service life.

Patented separated capacitive liquid level sensor

Offers reliable performance, high precision, and long service life.



Splash prevention bottle

Made of polymer material that is resistant to acids, alkalis, and high temperatures.



304 stainless steel condenser

Offers high cooling efficiency and long service life.

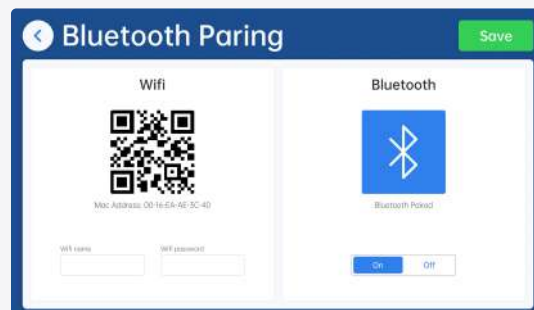
Product Features

One-touch automation: reagent addition, temperature control, cooling water control, sample distillation and separation, sample titration analysis, data storage and display, digestion tube waste discharge, analysis waste discharge, titration cup cleaning, and completion prompt.

★ Patented technology “electronic cooling circulation system” allows for a fully automatic Kjeldahl nitrogen analyzer without the need for tap water, saving energy, being environmentally friendly, and providing high condensation efficiency.

★ (Optional feature): Unique “sample weighing data automatically uploaded to the nitrogen analyzer via a downloadable app on mobile devices,” reducing transcription errors and improving efficiency.

★ (Optional feature): Remote monitoring of the nitrogen analyzer’s operational status via mobile phone, with real-time data sharing and download capabilities.



The control system features a 10-inch color touch screen for unified control of the nitrogen analyzer and cooling system, eliminating the need for multiple switches or settings, providing convenience, simplicity, and safety.

Three-level authority management, electronic records, electronic labels, and an operation traceability query system meet certification requirements.

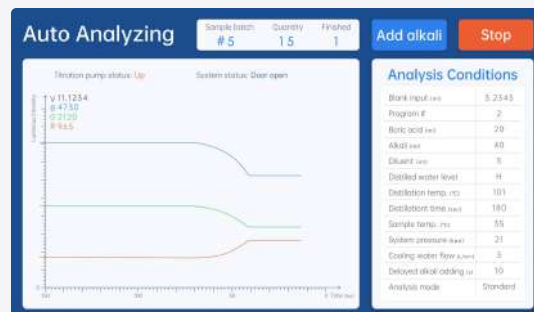
★ The standard cooling system saves substantial water resources for users and provides more stable analysis data.

★ The system automatically shuts down after 60 minutes of inactivity, ensuring energy efficiency and safety.

★ A built-in protein coefficient query table allows users to access, query, and participate in system calculations. When the coefficient is 1, the analysis result shows “nitrogen content”; when greater than 1, the result automatically converts to “protein content” for display, storage, and printing.

★ Patented technology adjusts R, G, and B light intensity automatically, suitable for analyzing different sample concentrations.

The titration system uses R, G, and B coaxial light sources and sensors with a wide color adaptation range and high precision.



Titration speed can be set from 0.05 ml/s to 1.0 ml/s, with a minimum titration volume of 0.2 μ L/step.

A high-precision titration system combines a German ILS 10mL (optionally 25mL) syringe with a 0.6mm lead screw linear motor.

★ The titrant concentration internal standard eliminates system errors between human and instrument judgment, offering high precision and convenience.

The exposed titration cup allows easy observation of the titration process and cup cleaning.

The simultaneous distillation and titration mode saves analysis time and reduces unnecessary power usage.

Distillation time is freely adjustable from 10 to 9990 seconds.

Steam flow can be adjusted from 1% to 100%, suitable for different sample concentrations.

Automatic discharge of digestion tube waste reduces staff labor intensity.

★ The system automatically cleans alkali pipelines during shutdown to prevent clogging and ensure liquid supply accuracy.

Data storage (16M) can store up to 1 million records for user reference.

5.7cm thermal printer with automatic paper cutting.

RS232, Ethernet, electronic balance, and cooling system data interfaces.

★ Unique feature for automatic uploading of sample weight data, eliminating the need for individual recording and input, reducing errors, and improving efficiency.

★ The splash-proof bottle is made of high polymer PP plastic, suitable for high-temperature, strong acid, and strong alkali conditions.

★ The steam system is made of 304 stainless steel, and liquid level control uses patented technology "separated capacitor liquid level sensor," ensuring overall safety, reliability, and long lifespan.

★ The condenser is made of 304 stainless steel, providing fast cooling and stable analysis data.

Leakage protection system ensures operator safety.

Safety door and door alarm system ensure personnel safety.

Missing digestion tube protection system prevents accidents involving reagents and steam.

Steam system water shortage alarm triggers automatic shutdown to prevent accidents.

Steam boiler over-temperature alarm triggers automatic shutdown to prevent accidents.

Steam overpressure alarm triggers automatic shutdown to prevent accidents.

Sample overheating alarm triggers automatic shutdown to prevent sample temperature from affecting analysis data.

Reagent bucket and titration bottle low-level alarm.

Cooling water flow monitoring ensures proper flow, preventing sample loss and analysis result errors.

Technical Specification

Analysis range: 0.1—240 mg N

Precision (RSD): ≤0.5%

Recovery rate: 99-101%

Minimum titration volume: 0.2 μL/step

Titration speed: 0.05—1.0 ml/s, adjustable

Distillation time: 10—9990 seconds, adjustable

Sample analysis time: 4-8 minutes (cooling water at 18°C)

Titrant concentration range: 0.01—5 mol/L

Titrant concentration input method: Manual input/instrument internal standard

Titration mode: Standard/Simultaneous distillation and titration

Titration cup capacity: 300 ml

Touch screen: 10-inch color LCD touch screen

Data storage capacity: 1 million sets of data

Printer: 5.7 cm thermal printer with automatic paper cutting

Communication interface: RS232/Ethernet/electronic balance/cooling water/reagent bucket level

Bluetooth communication, data transmission, remote monitoring

Digestion tube waste discharge mode: Manual/automatic

Steam flow regulation: 1%—100%

Safe alkali addition mode: 0—99 seconds

Automatic shutdown time: 60 minutes

Working voltage: AC220V/50Hz

Heating power: 2000W

Main unit dimensions: 500 mm (L) x 460 mm (W) x 710 mm (H)

Cooling system temperature range: 5°C-20°C

Cooling tank capacity: 6L

Circulation pump flow rate: 10L/min

Lift: 10 meters

Working voltage: AC220V/50Hz

Power: 850W

Product Packing List

JK9870A main unit: 1 piece

5L reagent bucket: 2 pieces

10L distilled water bucket: 1 piece

20L waste liquid bucket: 1 piece

1L titration bottle: 1 piece

Reagent tubing: 4 pieces

Cooling water tubing: 2 pieces

Power cord: 2 pieces

Digestion tube: 1 piece

Printer paper rolls: 8 rolls

Electronic refrigerated circulator: 1 piece