

JK9870B

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-key automatic completion:

Reagent addition, temperature control, cooling water control, sample distillation separation, sample titration analysis, data storage display, emptying of digestion tube waste, emptying of waste liquid, rinsing of the titration cup, and completion prompt

Based on the Windows11 developed computer operating system:

Real-time computer control of host analysis and operation
Storage, reading, query, export, and internet transmission of analytical data

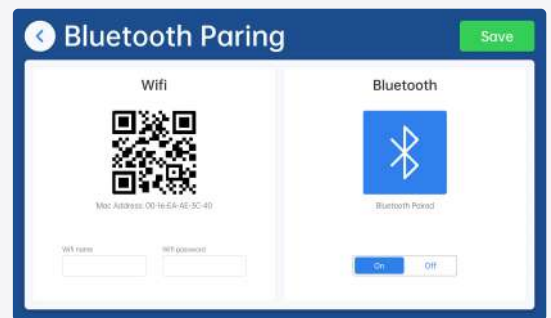
Automatic generation of analysis reports, editing, printing, exporting, and other network services

Standard configuration of 23-inch desktop computer



★ Unique "sample weighing data automatically uploaded to the nitrogen analyzer via a downloadable app on mobile devices," reducing transcription errors and improving efficiency.

★ Remote monitoring of the nitrogen analyzer's operational status via mobile phone, with real-time data sharing and download capabilities.



Control system with a 10-inch color touch screen for "nitrogen determinator host, refrigeration system" unified control, no need for multiple switch settings. Convenient, simple, and safe

Three-level permission management, electronic records, electronic tags, operation traceability inquiry system in line with relevant certification requirements

★ Patented technology "Electronic refrigeration circulation system" does not require tap water fully automatic Kjeldahl nitrogen determinator, energy-saving, environmentally friendly, high condensing efficiency
System automatically shuts off after 60 minutes of inactivity, energy saving, safe, and worry-free

★ The instrument is equipped with a protein coefficient lookup table for users to peruse, query, and participate in system calculations. When the coefficient = 1, the analysis result is "nitrogen content"; when the coefficient > 1, the analysis result automatically converts to "protein content" for display, storage, 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.



The titration speed can be set from 0.05ml/sec to 1.0ml/sec, with the minimum titration volume of 0.2ul/step

German ILS 10mL (optional 25mL) injection syringe and 0.6mm pitch linear motor make up the high-precision titration system

★ The internal standard of the titrant concentration eliminates the systematic errors that differ between human and instrument determinations, and is highly accurate and convenient

The titration cup is installed in a visible manner for the user to observe the titration process and the cleaning of the titration cup

The simultaneous distillation and titration mode can save analysis time and reduce ineffective distillation electricity consumption

The distillation time is freely set from 10 seconds to 9990 seconds

The steam flow is adjustable from 1% to 100% to suit different concentration samples

Automatic waste discharge of the digestion tube reduces the workload of the staff

★ Automatic cleaning of the alkali line when shut down to prevent line blockage and ensure the accuracy of the liquid supply

Data storage (16M) can reach 1 million records for user review

5.7CM automatic paper cutting thermal printer

USB, LAN, RS232, CAN, WIFI, Ethernet, electronic balance, cooling system data interface

★ The splash bottle is made of "high molecular PP plastic" processing, which can meet the application requirements of high temperature, strong alkali, and strong acid working conditions

★ The steam system is made of 304 stainless steel, and the liquid level control adopts patented technology "separate capacitive liquid level sensor control", and the system is overall safe, reliable, and has a long service life

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

The leakage protection system ensures the safety of the operator

The safety door and safety door alarm system ensure the safety of personnel

The digestion tube missing protection system prevents reagent and steam from hurting people

Steam system low water alarm prompt, shutdown prevents accidents

Steam pot overheating alarm, shutdown prevents accidents

Steam overpressure alarm, shutdown, prevents accidents

Sample overheating alarm, shutdown prevents the sample temperature rise from affecting the analysis data

Low liquid level alarm for reagent bucket and titration bottle

Monitoring of cooling water flow prevents insufficient water flow from causing sample loss and affecting analysis results

Technical Specification

Analysis Range: 0.1 - 240 mg N

Precision (RSD): $\leq 0.5\%$

Recovery Rate: 99-101%

Minimum Titration Volume: 0.2 μ L/step

Titration Speed: Settable from 0.05 - 1.0ml/s

Distillation Time: Settable from 10 - 9990 seconds

Sample Analysis Time: 4-8min/(cooling water temperature 18°C)

Titration Concentration Range: 0.01 - 5 mol/L

Titration Concentration Input Method: Manual input / instrument internal standard

Titration Mode: Standard / Simultaneous Steam and Drip

Titration Cup Capacity: 300ml

Touch Screen: 10-inch color LCD touch screen

Computer Operating System developed under Windows10

Bluetooth communication, data transmission, remote monitoring

23-inch all-in-one desktop computer

Data Storage Capacity: 1 million data sets

Printer: 5.7CM thermal paper automatic cutting printer

Communication Interface: 232/ethernet/computer/electronic balance/cooling water/reagent tank liquid level

Waste Disposal Mode of Digestion Tube: Manual/Automatic Discharge

Steam Flow Adjustment: 1% - 100%

Safe Alkali Addition Mode: 0-99 seconds

Automatic Shutdown Time: 60 minutes

Operating Voltage: AC220V/50Hz

Heating Power: 2000W

Main Unit Size: Length: 500 * Width: 460 * Height: 710mm

Cooling System Temperature Control Range: 5°C-20°C

Cooling Tank Capacity: 6L

Circulating Pump Flow: 10L/min

Lift: 10 meters

Operating Voltage: AC220V/50Hz

Power: 850W

Product Packing List

JK9870B main unit: 1 unit

5L reagent bucket: 2 units

10L distilled water bucket: 1 unit

20L waste liquid bucket: 1 unit

1L titrant bottle: 1 unit

Reagent tubing: 4 pieces

Cooling water tubing: 2 pieces

Power cord: 2 pieces

Digestion tube: 1 piece

Print paper: 8 rolls

Electronic refrigeration circulator: 1 unit

Lenovo 23-inch all-in-one desktop computer: 1 unit