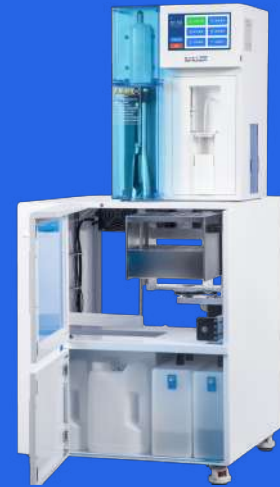


8900

Fully Automatic Kjeldahl Analyzer with 40 tube sampling system

v25.1.01

The 8900 fully automatic Kjeldahl nitrogen analyzer is currently the most automated, capable of analyzing the highest volume of samples, and has the most comprehensive supporting equipment available in the country. The system design aligns with the trends of increasing automation, reducing labor costs, and enhancing work efficiency.



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.



304 stainless steel steam generator

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



Separated capacitive liquid level sensor (Patented)

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

Built-in electronic refrigeration system (Patented)

Built-in patented electronic refrigeration system, no external water source required

Built-in Bluetooth

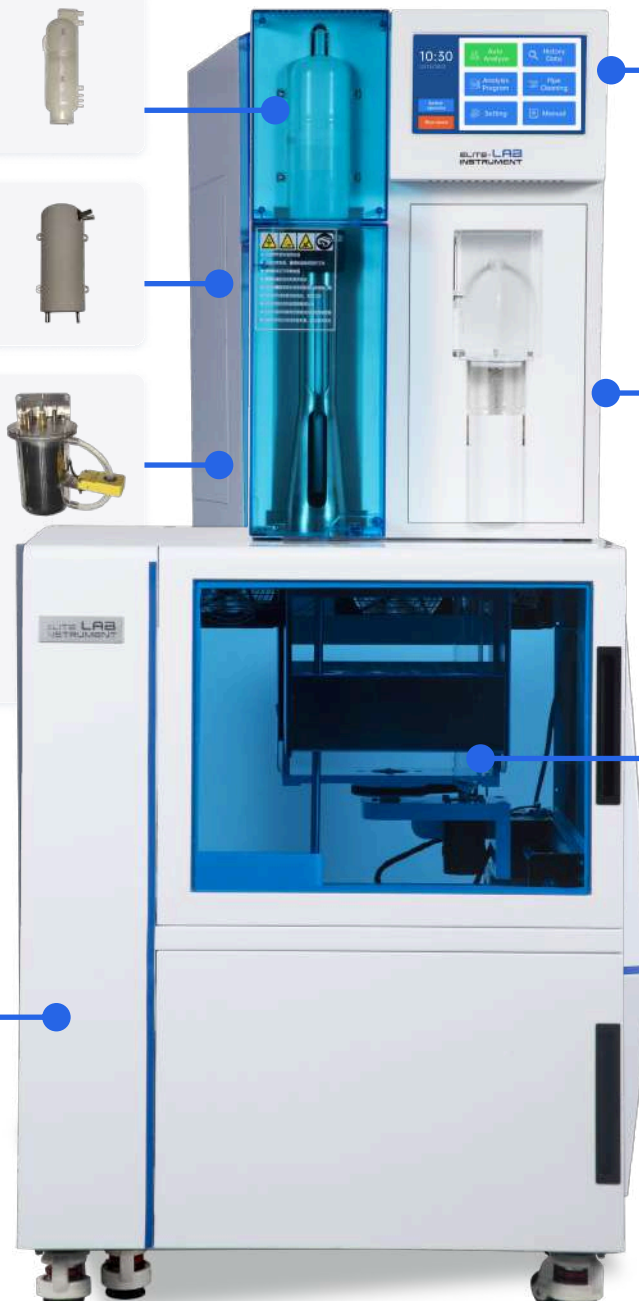
Remote monitoring of the nitrogen analyzer's operational status via mobile phone, with real-time data sharing and download capabilities

Light intensity auto adjustment (Patented)

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.

Rectangular test tube rack (Patented)

Patented rectangular test tube rack can hold 40 samples for analysis at the same time



8900 Fully Automatic Kjeldahl Nitrogen Analyzer Workflow

1 Sample Weighing

Weighing Data Automatically Synchronized

Automatically Uploaded to the Nitrogen Analyzer Main Unit (or Mobile App and Cloud)

2 Sample Digestion

One-Click Completion

Sample digestion and the digestion process, including acid mist collection, neutralization, and cooling at the end of digestion, are fully automated.

3 Sample Analysis

Comprehensive Automation

One-click completion for up to 40 sample analyses; the analysis equipment is equipped with a refrigeration circulation system that does not require tap water.

4 Analysis Progress Monitoring

Remote Real-Time Viewing

The analysis process can be monitored remotely via the mobile app.

5 Analysis Result Inquiry

Online Viewing and Sharing

Analysis results can be viewed, downloaded, and forwarded remotely in real-time via the mobile app.

6 Automatic Shutdown

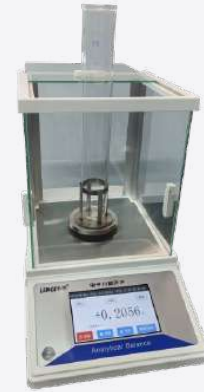
Automatically shuts down 60 minutes after the analysis is complete.

7 Equipment Cleaning

No Wet Hands Required

Polluted test tubes generated after analysis are automatically soaked, cleaned with detergent, rinsed, and dried using the equipped fully automatic washing machine.

Fully Self-Developed Equipment
Combining to Achieve
Full Process Automation

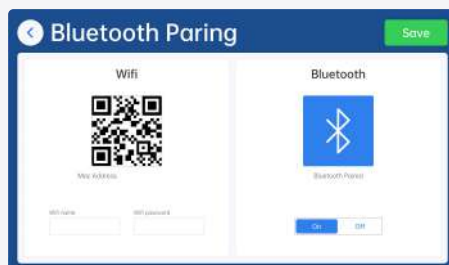


Sample Weighing System

This system includes one 320g/0.1mg electronic analytical balance (the balance is domestically sourced, equipped with a WIFI interface board and software), a WeChat download password, and one dedicated support stand for test tube weighing.



Electronic analytical balance with WIFI interface board installed and dedicated test tube weighing support.



Bluetooth pairing page for the nitrogen analyzer main unit.



Mobile WeChat mini-program operation page.

Sample weighing automatic upload mode 1:

Turn on the nitrogen analyzer main unit and the electronic balance power.

Weigh sample in grams.

Weighing results in grams are automatically uploaded to the nitrogen analyzer main unit's formula management for direct analysis.

Sample weighing automatic upload mode 2:

Turn on the mobile mini-program software and the electronic balance power.

Weigh sample in grams.

Weighing results are automatically uploaded to the mobile mini-program or uploaded to the nitrogen main unit's "formula management" via mobile.

Sample weighing automatic upload mode 3:

Turn on the mobile mini-program software and the electronic balance power.

Weigh sample in grams.

Weighing results are automatically uploaded to the mobile mini-program.

Results uploaded to WeChat cloud storage via mobile.

Download cloud weighing results on mobile and upload to the nitrogen main unit or forward to other colleagues.

Curve Heating Digestion System

This sample processing system is centered around a curve heating digestion furnace, designed in conjunction with waste gas collection and neutralization. The system automates the entire process from ① sample digestion → ② waste gas collection → ③ waste gas neutralization → ④ stopping heating after digestion is complete → ⑤ separating the digestion tube from the heating element for cooling and standby, thereby improving the working environment and reducing the workload of operators.

Digestion Furnace

Developed based on the classic wet digestion principle. It is primarily used in agriculture, forestry, environmental protection, geology, petroleum, chemical industries, food sectors, as well as in universities and research institutions for the digestion of samples such as plants, seeds, feed, soil, and ores prior to chemical analysis. It is the best complementary product for the Kjeldahl nitrogen analyzer.



- 1) The aluminum alloy heating module heats up quickly, has a long lifespan, and is widely applicable, with a design temperature of 450°C.
- 2) The temperature control system features a 5.6-inch color touchscreen with Chinese and English switching, making it easy to operate.
- 3) The formula program input uses a tabular quick input method, which is logically clear, fast, and minimizes errors.
- 4) 0-40 program segments can be selected and set freely.
- 5) Single-point heating and curve heating modes can be chosen at will.
- 6) The intelligent P, I, D self-tuning ensures high, reliable, and stable temperature control accuracy.
- 7) The segmented power supply and anti-power failure restart function help avoid potential risks.
- 8) Equipped with over-temperature, over-pressure, and over-current protection modules.



Neutralization Device

- 1) This product is an acid-base neutralization device with a built-in negative pressure suction pump, featuring a large flow rate, long lifespan, and ease of use.
- 2) The three-level absorption of alkaline solution, distilled water, and gas ensures the reliability of gas discharge.
- 3) The instrument is simple, safe, and reliable to use.

Exhaust Gas Collection Device

- 1) The sealing cover is made of polytetrafluoroethylene, resistant to high temperatures and strong acids and bases.
- 2) Designed with a conical shape and flat cover structure, each sealing cover weighs 35g.
- 3) The sealing method uses gravity for natural sealing, which is reliable and convenient.
- 4) The collection tube extends into the pipe to collect acid gas, ensuring high reliability.
- 5) The shell is welded from 316 stainless steel plate, providing good corrosion resistance.

Technical Specifications

- 1) Number of sample holes: 20 holes
- 2) Hole diameter: $\Phi 43.5\text{mm}$
- 3) Heating block material: 6061 aluminum alloy
- 4) Design temperature: 450°C
- 5) Temperature control accuracy: $\pm 1^{\circ}\text{C}$
- 6) Heating rate: $\approx 8\text{--}15^{\circ}\text{C}/\text{min}$
- 7) Temperature control: 1-40 segment program heating, single-point heating dual mode.
- 8) Formula management: 10 groups
- 9) Timed shutdown: freely set from 1 to 999 minutes
- 10) Lifting speed: $15\text{mm}/\text{second}$
- 11) Neutralization suction flow rate: $15\text{L}/\text{min}$
- 12) Acid-base neutralization reagent volume: 1700ml
- 13) Operating voltage: $\text{AC}220\text{V}/50\text{Hz}$
- 14) Heating power: 3KW .

Fully Automatic Kjeldahl Analyzer with 20 or 40 sampling system

Analyzing Unit 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



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

Sampling System Feature

The sample loading and unloading adopts a rectangular structure design. After the sample is digested, it can be directly loaded onto the machine together with the digestion tube rack, which is convenient and fast. Compared with the disc-type sample storage, it reduces the tedious operation of secondary transfer of the digestion tube.



★The 40 tubes automatic sampling system can hold two 20-position digestion tube racks to meet the needs of large-scale automatic analysis★The sample storage adopts a rectangular structure design. After the sample digestion is completed, it can be directly loaded into the machine together with the digestion tube rack, which is convenient and fast. Compared with the disc-type sample storage, it reduces the tedious operation of secondary transfer of digestion tubes

"Continuous injection" and "injection one by one" are two modes for selection

One-key automatic completion: sample placement, reagent addition, temperature control, cooling water control, sample distillation separation, sample titration analysis, data storage display, analysis waste liquid emptying, titration cup cleaning, automatic replacement and placement of the next sample, automatic alarm and prompt after all analysis is completed

★ Built-in patented technology "electronic refrigeration cycle system" does not require external or external tap water or cooling system, making the operating environment cleaner and more convenient, energy-saving, environmentally friendly, and high condensation efficiency

Built-in reagent barrel with liquid level sensor, cleaner workplace

Alarm switch for injection system door to prevent damage to the motion system

Alarm and stop working when there is no tube in the digestive tube to prevent reagent contamination caused by leakage of the digestive tube operation

Technical Specification

- 1) Analysis range: 0.1-240 mg N
- 2) Precision (RSD): $\leq 0.5\%$
- 3) Recovery rate: 99-101%
- 4) Minimum titration volume: 0.2 μ L/step
- 5) Titration speed: 0.05-1.0ml/S arbitrarily set
- 6) Number of autosampler digits: 40
- 7) Distillation time: 10-9990 freely set
- 8) Sample analysis time: 4-8min/(cooling water temperature 18°C)
- 9) Titration solution concentration range: 0.01-5 mol/L
- 10) Titration solution concentration input method: manual input/instrument internal standard
- 11) Titration mode: standard/distillation while dropping
- 12) Titration cup volume: 300ml
- 13) Touch screen: 10-inch color LCD touch screen
- 14) Data storage capacity: 1 million sets of data
- 15) Printer: 5.7CM thermal automatic paper cutter printer
- 16) USB, LAN, RS232, CAN, WIFI, Ethernet, electronic balance, refrigeration system data interface
- 17) Bluetooth communication, data transmission, remote monitoring
- 18) Discharge mode of digestion pipe: manual/automatic discharge
- 19) Steam flow adjustment: 1%-100%
- 20) Safe alkali addition mode: 0-99 seconds
- 20) Automatic shutdown time: 60 minutes
- 21) Working voltage: AC220V/50Hz
- 22) Heating power: 2000W
- 23) Working position: 40 positions
- 24) X-axis (left and right) running speed: 23.8mm/second
- 25) Y-axis (front and back) running speed: 71.4mm/second
- 26) Z-axis (up and down) running speed: 61.6mm/second
- 27) Working voltage: AC220V/ 50Hz
- 28) Power: 300W
- 29) Automatic sampler size: length 870*width 780*height 950
- 30) Main unit size: length: 500*width: 460*height: 710mm
- 31) Automatic sampler size: length 930*width 780*height 950
- 32) Total height of instrument assembly: 1630mm
- 33) Temperature control range of electronic refrigeration system: 5°C-20°C
- 34) Refrigeration tank volume: 6L
- 35) Circulation pump flow: 10L/min
- 36) Lift: 10 meters
- 37) Working voltage: AC220V/50Hz
- 38) Power: 900W

Product Packing List

- JK9870B main unit: 1 unit
- 8900 sampling system: 1 unit
- 20-hole digestion tube holders: 2 sets
- 5L reagent barrels: 2 sets
- 10L distilled water barrel 1 piece
- 20L waste liquid barrel: 1 piece
- 1L titration liquid bottle 1 piece
- Reagent pipe: 4 pieces
- Cooling water pipe: 2 pieces
- Power cords: 2 pieces
- Digestion tube: 1 pieces
- Printing paper: 8 rolls
- Lenovo 23-inch desktop all-in-one computer: 1 unit

JRSP-40 Automatic Test Tube Washer

The wide variety of laboratory glassware, especially the narrow and elongated structure of large test tubes, makes cleaning difficult. The automatic test tube washer can perform thorough cleaning and drying of both the interior and exterior of test tubes. It is particularly suitable for cleaning test tubes used in Kjeldahl nitrogen analyzer.

Product Features

304 Stainless Steel Vertical Pipe Spraying: High-pressure water flow and high-volume pulse cleaning ensure thorough cleanliness.

High-Pressure, High-Flow Hot Air Drying System: Can complete drying tasks quickly, with temperatures up to 80°C.

Automatic Cleaning Solution Dispensing.

Built-in Water Tank: Features automatic water replenishment and automatic stop functions.

Standard Cleaning Process:

Water spraying—Cleaning agent foam spraying—Soaking—Water rinsing—High-pressure hot air drying.

Deep Cleaning Process:

Water spraying—Cleaning agent foam spraying—Soaking—Water rinsing—Cleaning agent foam spraying—Soaking—Water rinsing—High-pressure hot air drying.



Technical Specification

- 1) Test tube handling capacity: 40 pieces/time
- 2) Built-in water bucket: 50L
- 3) Cleaning pump flow rate: 6m³/H
- 4) Cleaning solution addition method: Automatic addition 0-30ml/min
- 5) Cleaning programs: 2
- 6) High-pressure blower/heating power: Air volume: 1550L/min, Air pressure: 23Kpa / 1.5KW
- 7) Voltage: AC220V/50-60HZ