

# N810

## Water-free Fully Automatic Kjeldahl Nitrogen Analyzer



## The new generation of Water-free Fully Automatic Kjeldahl Nitrogen Analyzers leads the innovation in nitrogen analysis technology

**More accurate, safer, and more environmentally friendly**



The new generation N810 Water-free Fully Automatic Kjeldahl Nitrogen Analyzer breaks away from traditional glass designs, utilizing optimized materials and structures to enhance experimental accuracy and efficiency while increasing instrument reliability. Its innovative dual-layer titanium sleeve metal condenser significantly reduces the cost of external cooling water circulation systems and conserves water resources. The instrument integrates several functions, including water-free condensation, automatic addition of alkali, acid, and diluent, automatic distillation titration, automatic digestion tube emptying, automatic solution level monitoring, automatic over-temperature monitoring, automatic waste cleaning and disposal, and automatic result calculation.



### Water-free Condensation Technology for Distillation

The N810 uses the latest generation of water-free condenser technology, eliminating the need for external tap water cooling during distillation. This technology avoids issues related to high water temperatures or zero water pressure that can negatively impact condensation performance.



### Minimum Condensation Temperature as Low as 1°C

The enhanced condensation ensures that water vapor and ammonia are instantaneously liquefied and fully absorbed, with no loss. This fundamentally guarantees more accurate and reliable results.



### Water-saving and Eco-friendly, Reducing Water Costs

Water-saving and environmentally friendly, this device significantly conserves water resources, aligning with the current trend of energy conservation and environmental protection. Ordinary Kjeldahl nitrogen analyzers use tap water for cooling, consuming about 10 liters of water per minute. Over the course of an 8-hour workday, this results in an annual waste of approximately 1,200 tons of water.



### Space-saving and Flexible Placement

The N810 does not require a dedicated faucet or circulating water chiller, allowing for flexible placement within the laboratory.

## Product Features

### ● The New Metal Cooling Device Can Reach the Minimum Cooling Temperature of 1°C

The N810 features a dual-layer titanium sleeve metal condenser and a compressor for water-free condensation, eliminating the need for tap water (cooling) throughout the analysis process. This technology saves up to 99% more water compared to traditional instruments, aligning with global and domestic trends in water conservation. The condenser can achieve a minimum condensation temperature of 1°C, ensuring that ammonia and water vapor are instantaneously liquefied and absorbed without any loss.

### ● Fully Automatic Steam Generation Device for Safe Experiment

The N810 features a steam generation system with multiple protective mechanisms, including a pressure-temperature control switch and a pressure relief valve. These safeguards ensure that internal pressure remains at safe levels.

### ● Fully Automated Operation for Efficient Experiments

Fully automated functions include the addition of alkali, acid, and diluent; distillation and titration; cleaning; digestion tube emptying; solution level monitoring; over-temperature monitoring; waste disposal; result calculation, output, and printing.

### ● High-precision Stepper Motor Micro-controlled Titration System for Time-saving and Efficient Operation

The instrument utilizes simultaneous distillation and titration, along with variable-speed and variable-volume titration technology, leading to faster, more efficient processes and higher testing accuracy.

### ● Adopting a Positive Pressure Liquid Injection System to Enhance Data Accuracy

This instrument uses a positive pressure liquid injection system, effectively preventing bubble formation during the titration process. It features a built-in titrant container and a titrant level monitoring function to ensure smooth and uninterrupted experiments. The standard configuration includes a 25mL burette, with optional 5mL and 10mL burettes available to meet the precision requirements of various applications.

### ● Equipped with a 10-inch Color Touchscreen and Android System for Enhanced Functionality

The N810 features a 10-inch color touchscreen with an Android-based operating system. It offers a rich set of features with a user-friendly interface in both Chinese and English, allowing for easy operation and real-time monitoring and display of the experimental process.

### ● Cloud Service Functions

The instrument can connect to the internet via Wi-Fi or other methods, allowing data to be uploaded to the cloud for storage or downloaded from the cloud to a local device.

### ● Rich Software Interface for Real-time Process Monitoring

The instrument's software displays the entire titration process in real-time using graphical curves. Data such as color changes, titration volume, steam temperature, and condensation temperature are all shown on a single, clear interface, making it easy to understand.

### ● Safety Compliant with FDA 21 CFR Part 11

The instrument features built-in user access levels with a three-level username encryption login. Operations are traceable, ensuring that experimental data is more accurate and reliable, and the system complies with FDA 21 CFR Part 11 requirements.

## Technical Specification

Instrument model	N810
Detection range	0.1-250mgN
Measured sample weight	Solid≤6g, liquid≤20mL
Titration accuracy	Depending on the sample, there are three selectable increments: 0.5μL/step(standard) 0.2μL/step(optional) 0.1μL/step(optional)
Repeatability error	RSD≤0.5% (1-250mgN)
Recovery rate	≥99.5% (1-250mgN)
Condensation method	No need for external water source for condensation
Automation	Automatic reagent addition, distillation titration, and calculation
Distillation time	Continuous adjustable from 0 to 6000s
Steam flow	Adjustable from 0 to 100%
Display method	10-inch color touchscreen
Output format	XLS, XML and PDF
Operating temperature	10-35°C
Power supply	220VAC±10%, 50Hz
Transmission interface	USB, LAN, RS232, WIFI, Bluetooth
Data storage capacity	≥2,000,000 pieces of data , with unlimited cloud storage
Permission settings	Three-level permission management
Rated power	2500W
Dimension	460(L)*400(W)*760(H)(mm)
Weight	56kg

## Application Field

The instrument adopts the principle of the Kjeldahl method and is used for the analysis of total nitrogen and protein content in samples such as food, medicine, aquatic products, dairy products, chemicals, soil, sludge, grains, plants, fertilizers, tobacco, animal feeds and other samples, as well as the analysis of other volatile components.



Food



Crops



Feed



Drugs



Fertilizers



Soil

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