

K18 Fully Automatic Kjeldahl Nitrogen Analyzer

K18 — Fully Automatic Kjeldahl Nitrogen & Protein Analyzer

Overview

Reagent addition, distillation, titration, digestion tube and titration buret waste removing, discharging & washing, calibrating, fault detecting, solution level monitoring, and outcome calculating all can be realized fully automatically. Make the entire experimental process simple and efficient. Standard data-processing software (the control software is also optional).

Features

- Covers the full K12 function set, and adds: $\geq 99.8\%$ recovery, $\leq 0.2\%$ repeatability, data tracking / review / output with five-level management software (operation, review, approval, management, maintenance) for reliable, traceable results, and LIMS connectivity.
- Fully automatic single-sample testing: once a sample starts, the complete test cycle runs with no operator attendance required.
- Built-in autosampler interface — pairs with the A20 (20-position) or A35 (35-position) autosampler to run 20 or 35 samples consecutively, for true unattended batch operation.
- Comply with international / national standard, adopt national standard Kjeldahl method: digest sample in concentrated sulphuric acid environment, steam distillation in alkaline environment, boric acid absorption, indicator titration end-point color determination method. Adopt international advanced high-precision high-resolution 16-bit tri-phosphor digital signal color sensor determinate titration end-point method (successfully developed in 2005).
- Dynamic titration technology (known as distilling while titrating, successfully developed in 2007) could accomplish the distillation, titration and calculation synchronically.
- The visible titration flask make the color change during the titration could be clearly shown.
- In 2007, Sonnen successfully developed the unique auto determining module for nitric nitrogen and high nitrogen.
- Sonnen is one of the drafters of China's national standard GB/T22923-2008.
- Sonnen is one of the drafters of the China's official standard JJF 109-2012 "Calibration Specification for Nitrogen Analyzer".
- Adding acid, adding alkali, distillation, titration, calibration, liquid level detection, waste discharging & washing (digestion tube and titration cup), calculation and print can all be realized fully automatically.
- Whole new multicore ARM operating system, 10-inch high definition color touch LCD screen, realtime monitoring and displaying experimental process.
- Multi safety monitoring function: monitoring the safety of safety door, digestion tube, steam pressure, cooling water temperature, distillate temperature, water level of steam generator and lack of water. Ensuring experimental safety.
- High precision titration system, achieve dynamic titration and variable speed titration, could accomplish the distillation, titration, calculation, data transmission synchronically, reduce experimental time by 40%. The external titration cup with protection real time visible and with anti interference capability.
- Multi data output modes. WIFI, RS232/RS485, double USB2.0 interface. Data processing by Word, Excel software.
- The instrument stores up to 5,000,000 test results internally. Test results can be exported in 12 formats, including Word and Excel.

- Fourth level permission grading function, using different permissions from program administrator, main administrator, auxiliary administrator, and operator. Built-in time lock&data lock complies with "GLP and GMP" regulations.
- Users can analyze and process data through a PC. The data processing software has data tracking, review, and output functions, as well as five levels of management functions including operation, review, approval, management, and maintenance. The testing information is reliable and traceable.
- Titration color can be calibrated automatically or manually. The titration endpoint determined by high accuracy 16-bit three primary color digital signal color sensor.
- PTFE (Teflon) bellows pump, acid and alkali resistance and corrosion resistance, Resistance to particle plugging structure, steady liquid addition controled by stepper motor, negative pressure suction without danger.
- PTFE (Teflon) splash-proof bottle, resistance to high temperature and strong alkali, no ammonia leakage, ensure high recovery rate.
- The liquid level detection of bucket ensure no lack of liquid during experiment.
- Capable of detecting trace nitrogen content, accurate to 10ppm.
- Optional addition of nitrate nitrogen or high nitrogen(the sample nitrogen content higher than 45%) automatic testing module.

Specifications

Measurement range	0.1-240 mg N
Measurement time	3-8 min/sample
Recovery	≥99.8%
Repeatability	≤0.2%
RSD	≤1%
Steam flow rate	0-100%
Titration accuracy	0.1 µL/step
Sample size	Solid ≤6 g / Liquid ≤25 ml
User-defined schemes	500
Data storage	5,000,000 test results
Connectivity	USB, Wi-Fi, host control, LIMS
Auto-sampler interface	Yes (for A20 / A35 autosamplers)
Data traceability software	Optional, meeting GMT certification requirements

Compiled from the manufacturer's datasheet — request the full specification sheet for this model.

Applicable standards

GB/T22923-2008 · JJF 109-2012

Application fields

Food & feed, dairy, soil & agriculture, fertilizer, environmental monitoring and the chemical industry — any method built on Kjeldahl nitrogen / protein determination, across research, teaching and quality-supervision laboratories.

Specifications as published at www.sino-sonnen.com. Final configuration is confirmed per order — request a quotation: info@sino-sonnen.com · R&D: Jiading District, Shanghai · Manufacturing: Luoyang, Henan, China