

Kjeltec™ 2300 Analyzer Unit



Automatic distillation and approved colorimetric titration for analysis of Kjeldahl nitrogen/protein, ammonium-nitrogen, TKN, Direct distillation (DD), volatile acids/bases etc. (Also shown in picture; Tecator™ Digester 20 Auto Lift and the Scrubber)

Features & Benefits:

- Automatic distillation procedure, incl. sample dilution, alkali and receiver addition, distillation, titration, calculation, reporting and tube draining.
- Officially approved colorimetric titration system (AOAC, EPA, DIN, ISO etc) simplifies validation.
- Alarms for reagent availability to eliminate errors.
- Accurate dispensing of reagents provides accuracy.
- Active built-in safety systems for user protection.
- Steam Addition for Equilibration* (SAFe) feature for safe distilling of tubes with acid/salt cake contents.
- Automatic tube draining to eliminate handling of hot tubes full of alkali and simplify waste collection.
- Corrosion-resistant materials to reduce maintenance costs and extend instrument lifetime.
- Alkali resistant plastic splash head/tube draining vessel for long life-time.
- Data to LIMS systems, eliminates transcription errors.
- Software in English, French, Spanish, German, etc.
- Interchangeable burette for easy switching of titrant strengths.
- Temperature control on distillate to secure accurate results.

Description:

The Kjeltec™ 2300 Analyzer Unit is the ultimate solution for automation in the routine Kjeldahl laboratory and can be pre-programmed for 10 different distillation routines.

The unit is dedicated to production of accurate results. GLP routines are supported by a Recovery Test routine and documentation of all events during analysis. An approved colorimetric titration system is used.

Accurate bellows pumps and a high-precision refillable burette give long term stability in reagent delivery. A distillate temperature sensor stops the unit if there is a risk of inaccurate results.

The Kjeltec 2300 sets new standards in safety for Kjeldahl analysis. The unit has a wide range of safety features; sensors for ¹tube in place, ²safety door, ³front hood, ⁴reagent level, ⁵plus level and ⁶overpressure for the steam generator. The SAFe* (Steam Addition for Equilibration) technology improves safety by a mixing procedure, reducing the exothermic reaction between alkali and acid, no need for manual predilution of samples. A fast tube draining system removes the need for handling hot reagents after distillation. The safety door and drip tray can be easily removed for cleaning.

Running costs are low through optimized applications. Downtime and service costs are minimized using selected components and a service mode in the software. Surfaces exposed to reagents are made of corrosion-free, chemical-resistant dyed plastic materials.

* Patented

Order numbers:

- 2300-001 Distilling unit, 200-240 V, 50-60 Hz comprising: Automatic distilling/titration unit with tube draining and built-in steam generator for deionized water or tap water complete with alkali/water/ receiver/waste tanks with level sensors, adapters for 100 & 250 ml tubes and a digestion tube for 100 & 250 ml
- 2300-002 As above but without reagent tanks

Optional accessories:

For a complete Kjeldahl system a Digester with appropriate accessories such as Exhaust, Scrubber, test tubes and catalyst tablets should be selected. Details can be found in the separate data sheet Tecator™ Digestion Systems.

- 10007913 Printer 230 V, 50 Hz. Complete with printer cable
- 10007914 Printer 115 V, 60 Hz. Complete with printer cable
- 15650328 Cable for connection of analyzer to a PC
- 10000036 Complete set of tanks with level sensors and connection cables. (alkali/water/receiver/waste)
- 10000037 Set of tanks without level sensors. (alkali/water/receiver/waste)
- 10011512 Top loaded level sensor for waste tank
- 10011513 Top loaded level sensor for reagent tank
- 10009017 Adapter for Büchi tubes
- 10000077 Flask for titration acid (3,2 l)
- 10005975 Burette cpl, 50/60 Hz
- 10007938 Kjeltac DD kit for Direct Distillation procedures comprising 12 distillings tubes, stand for tubes and application note
- 10000897 Handling device for digestion tubes

Performance data at 230 V:

- Storage capacity: 400 samples
- Analysis time: 3,5 min at 30 mg N (6,5 min at 200 mg N)
- Distillation capacity: ~ 40 ml/min
- Measuring range: 0,1 - 200 mg N
- Reproducibility: 1% RSD (including the digestion step)
- Recovery: > 99,5 % at nitrogen levels between 1 - 200 mg N
- Tube draining: 200 ml in 2 s. Selectable
- Reagent pump volumes: 0 - 150 ml in steps of 10 ml
- Burette, min volume: 3,9 µl/step
- Burette, max speed: 40 ml/min
- Delay: 0 - 999 s
- SAfE^{Patented}: 0 - 15 s

Installation requirements:

- Power supply: 200 - 240 V, 50-60 Hz
- Power consumption: 2 200 W
- Water consumption: 2 l/min at water temp of 30°C (during distillation 1 l/min at water temp of 15°C only)
- Ambient temperature: max. 40°C
- Ambient humidity: max. 80 % relative
- Weight net: 35 kg
- Dimensions: L × D × H = 53 × 44 × 76 cm
- Drain: For cooling water only

*Ordering information: Use the above specified Cat. Nos. together with the text.

FOSS

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