

Kjeltec™ 2200 Auto Distillation Unit



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

Features & Benefits:

- Automatic distillation procedure, incl. sample dilution, alkali and receiver addition, distillation and tube draining. Provides ease of use.
- Official and accurate procedures (AOAC, EPA, DIN, ISO etc) simplify validation.
- Alarms for reagent availability to eliminate errors.
- Bellow pumps for 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 lifetime.
- Software in English, French, Spanish, German, etc.
- Temperature control on distillate to secure accurate results.

Description:

The Kjeltec™ 2200 Auto Distillation unit is the ultimate solution for safe, automatic distillation.

The unit is fully equipped to support production of accurate results. Pre programmability reduces error when changing methods. Accurate bellows pumps give long term stability in reagent delivery. A distillate temperature sensor stops the unit if there is risk of inaccurate results.

The Kjeltec 2200 sets new standards in safety for Kjeldahl distillations. 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. A routine maintenance schedule supports GLP routines. Surfaces exposed to reagents are made of corrosion-free, chemical-resistant dyed plastic materials.

* Patented

Order numbers:

- 2200-001 Distilling unit, 200-240 V, 50-60 Hz comprising: Microprocessor controlled distilling unit with tube draining and automatic addition of receiver solution. Built-in steam generator for deionized water or tap water complete with alkali/water/receiver/waste tanks with level sensors, receiver flask, drip tray for receiver flask, adapters for 100 & 250 ml tubes and digestion tube for 100 & 250 ml
- 2200-003 As above, but without the automatic receiver solution addition. Optional boric acid addition kit available
- 2200-005 As above but without reagent and waste tanks. Tanks with or without level sensors are optional. Optional boric acid addition kit available
- 10000031 Alkali/water/waste tanks with level sensors. Complete with connection cables
- 10000034 Alkali/water/waste tanks without level sensors
- 10000041 Kit for automation of boric acid addition comprising:
Boric acid pump and reagent tank with level sensors, complete with connectors and tubing
- 10011403 Titrator Connection Kit. Remote start for external titrator, max 48V, 0.5A, closing contact

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™ Digester Systems.

- 1002-022 Titration unit complete, 50 ml
- 10009017 Adapter for Büchi tubes
- 10000089 Basket for 20 receiver flasks (250 ml)
- 10000164 Receiver flasks, 250 ml (set of 10)
- 10000347 Kjeltac DD kit for direct distillation (DD) procedure comprising 12 distilling tubes (750 ml), 12 receiver flasks (300 ml), stand for tubes, basket for flasks and application note
- 10000897 Handling device for digestion tubes

Performance data at 230 V:

- Distillation 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
- 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: 34 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

FOSS Analytical
69, Slangerupgade
DK-3400 Hilleroed
Denmark

Tel.: +45 7010 3370
Fax: +45 7010 3371

info@foss.dk
www.foss.dk