

Kjeltec™ 8400/8420/8460 Auto Sampler Systems



Fully automatic analysis of Nitrogen/Protein or TKN in Kjeldahl digests, Ammonium Nitrogen, Direct distillation (DD) etc.
(Also shown in picture; Tecator™ Digestor 20 Auto Lift and the Scrubber)

Features & Benefits:

- Fully automatic dilution, reagent handling, distillation, titration, calculation and reporting.
- Optional 20 or 60 place sample changer provides fully unattended operation.
- Officially approved colorimetric titration system (AOAC, EPA, DIN, ISO) simplifies validation.
- Built-in safety systems for user protection.
- Patented SAfE* feature for safe distillation of samples that form salt cakes.
- Distillate temperature control secures accurate results.
- Self adjusting cooling water control saves water.
- Bellows pumps for accurate reagent dispensing.
- Alkali resistant plastic splash head/tube draining vessel for long lifetime.
- Interchangeable burette for easy titrant exchange.
- Ethernet connection eliminates communication problems with printers and balances.
- Complete PC control of all registration and reporting through optional data management software.

Description:

The Kjeltec™ 8400 Analyser and the 8420 or 8460 Sampler systems are the ultimate solutions for automation in the Kjeldahl laboratory regardless of sample throughput.

Good Laboratory Practice (GLP) routines are supported by sample registration and performance test routines and complete documentation of all events during analysis through Balance/Printer/LIMS connection.

Accurate bellows pumps and a high-precision refillable burette give long term stability in reagent delivery. Cooling water flow is controlled automatically and a temperature sensor stops the unit if the distillate is too hot. Sensors monitor tube in place, safety doors, reagent levels, water level and over-pressure in the steam generator providing safe conditions for users. SAfE* technology reduces the exothermic reaction between alkali and acid, removing the need for manual pre-dilution of samples. A fast tube draining system removes the need for handling of hot reagents.

Sampler systems take tubes directly in their original digestion racks, limiting handling and sample transfer errors.

* *Steam Addition for Equilibration*

Order numbers:

- 84000001 Kjeltec™ 8400 Analyzer Unit, 200 – 240 V, 50 – 60 Hz comprising:
Automatic distillation / titration unit with tube draining and built-in steam generator for deionised water or tap water, Complete with alkali/water/receiver/ waste tanks with level sensors, combi-adapter 100, 250, 400 and 750 ml tubes and a digestion tube for 100 & 250 ml, Handling device
- 84200001 Kjeltec 8400/Kjeltec sampler 8420 200 – 240 V, 50 – 60 Hz comprising:
84000001 including 84200011 Kjeltec sampler 8420 for 20 samples
- 84600001 Kjeltec 8400/Kjeltec sampler 8460 200 – 240 V, 50 – 60 Hz comprising:
84000001 including 84600011 Kjeltec sampler 8460 for 60 samples
- 84200011 Kjeltec sampler 8420 200 – 240 V, 50 – 60 Hz with accessories needed to be connected and run with Kjeltec 8400
- 84600011 Kjeltec sampler 8460 200 – 240 V, 50 – 60 Hz with accessories needed to be connected and run with Kjeltec 8400
With integrated water tank

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.

- 60031631 Compass, PC software for Kjeltec 8400 Analyzer unit
- 60028286 Tank for titrant, complete with tubing
- 60032074 Burette Dosing device for calibration of burette
- 10011512 Top loaded level sensor for waste tank
- 10011513 Top loaded level sensor for reagent tank
- 60032042 Tank 20 l (Alkali/water/waste) without level sensors.
- 60032043 Level sensor kit for waste
- 60032044 Level sensor kit for reagents
- 60030343 Adapter for Büchi tubes
- 10000897 Handling device for digestion tubes

Performance data at 230 V:

- Autosampler capacity ; Kjeltec sampler 8420, 1 rack with 20 Kjeldahl tubes 250 ml or 400 ml
Kjeltec sampler 8460, 3 racks with 20 Kjeldahl tubes 250 ml or 400 ml
- Storage capacity: 40 batches (with Compass unlimited)
- Analysis time: 3.5 minutes at 30 mg N
(6.5 minutes 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 less than 10 seconds
- Burette volume: 35 ml
- Burette resolution: 2.4 µl/step
- Burette speed: >0.5 ml/second
- Delay: 0 – 1800 seconds
- SAfE_{Patented}: 0 – 15 seconds

Installation requirements:

- Power supply: 200 – 240 V, 50 – 60 Hz
- Tolerable voltage variation: ± 10 %
- Power consumption: 2 200 W
- Water consumption: 2 l/min at water temp of 30°C
(during distillation only) 1 l/min at water temp of 15°C
- Ambient temperature: 5 - 40°C
- Ambient humidity: max. 80 % relative
- Drain: For cooling water only
- Weight net:
- Kjeltec 8400 35 kg
- Sampler Kjeltec 8420 71 kg
- Sampler Kjeltec 8460 89 kg
- Dimensions (W × D × H):
- Kjeltec 8400 480 × 580 × 690 mm
- Kjeltec sampler 8420 645 × 840 × 900 mm
- Kjeltec sampler 8460 1000 × 800 × 900 mm

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