

Technical data sheet

KjelDigester K-446 / K-449

The KjelDigester offers fast and safe digestion of up to 20 samples simultaneously. The fully automated model K-449 offers a convenient automatic lift for raising and lowering the sample tube rack and a programming mode so that all digestion methods can be saved. The manual K-446 is an entry level block digester with effortless manual control and manual rack handling. The sample tube rack of both digesters can be placed directly into the KjelSampler K-376 and K-377 for fully automated, high throughput nitrogen and protein determination according to Kjeldahl.



Scope of delivery

The Kjeldigester models are delivered ready to use with the standard package comprising of:

Components	Qty
Sample tubes 300 mL	20
Rack 20 position	1
Suction module *	1
Hose to Scrubber 1.5 m	1
Hose connector S19 (ball joint)	1
Clamp for hose connector S19	1
Drip tray	1
Drip tray holder	1

* standard or with condensate trap

Order code

Choose the configuration according to your needs:

1

1

5

4

4

0

0

0

Kjeldigester model

6 K-446 (manual)

9 K-449 (fully automated)

Suction module

1 Suction module standard

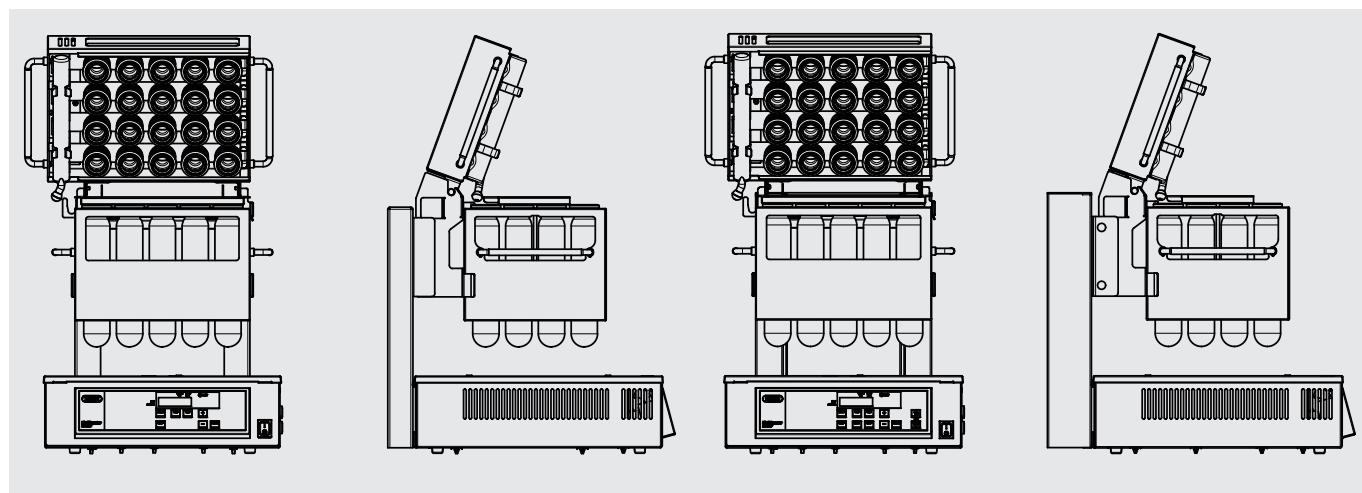
2 Suction module with condensate trap

Technical data

KjelDigester

	K-446	K-449
Dimensions (W x D x H)	472 mm x 524 mm x 764 mm	472 mm x 558 mm x 764 mm
Weight	18.5 kg	25.8 kg
Weight	30.3 kg	37.3 kg
Operating voltage	220–240 V ± 10 %	220–240 V ± 10 %
Frequency	50 / 60 Hz	50 / 60 Hz
Power consumption	max. 2,300 W	max. 2,300 W
Display	LCD (2 lines)	LCD (2 lines)
Temperature range	30–450 °C	30–450 °C
Resolution temperature display	± 1 °C	± 1 °C
Average temperature stability	± 1 °C	± 1 °C
Temperature accuracy absolute	± 7 °C at 420 °C	± 7 °C at 420 °C
Certificate	UL / CSA, CE	UL / CSA, CE

Dimensions



KjelDigester K-446

Front view

Side view

KjelDigester K-449

Front view

Side view

Ambient conditions

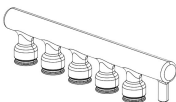

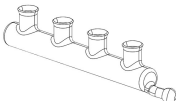
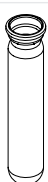
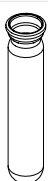

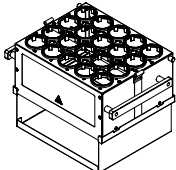
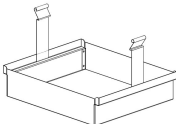

For indoor use only.



Specification	Value
Max. altitude above sea level	2,000 m
Ambient and storage temperature	5–40 °C
Max. relative humidity	80% for temperatures up to 31 °C decreasing linearly to 50% relative humidity at 40 °C

Spare parts and accessories

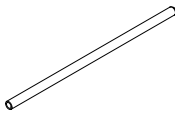
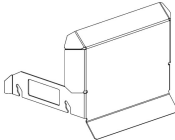
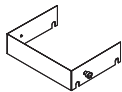
Accessories

General accessories



Specification	Order no.	Image
Suction tube standard Suitable for most applications	11058651	
Suction tube with condensate trap For aqueous samples, prevents backflow of condensate into the sample tube	11058827	
Fume collection tube with ball joint Collects the digestion fumes from the four suction modules	11058825	
Sample tubes 300 mL, 4 pcs. For sample volumes up to 200 mL or 5 g in weight	037377	
Sample tubes 300 mL 20 pcs.	11059690	
Glass caps, 4 pcs. For occupying empty sample positions, to close the suction circuit	040049	
Rack with 20 positions for 300 mL tubes	11059831	
Stand for rack Protects the sample tubes from smashing, as well as other damage.	11058659	
Retaining plate Holds the tubes firmly in the rack when it is placed into the dish- washer for cleaning.	038559	

Specification	Order no.	Image
Air supply for internal fan Supplies clean air to the display, as well as the built-in fan	040079	
Brush for cleaning troughs in the block Is used in conjugation with an electric drill to remove heavy soiling's, it exactly matches the troughs in the block	043929	

Application related accessories

Specification	Order no.	Image
Digestion rods To prevent boiling delays, 10 pcs.	043087	
User protection shield (for H2O2 and TKN applications) Protects the user from any possible splashes, which may occur from H2O2 usage or boiling delays 10 pcs	11057889	
Heat shield for rack Provides heat insulation for sample tubes during digestion	040052	
Weighing boats Nitrogen-free weighing paper 58 x 10 x 10 mm, 100 pcs.	11060522	


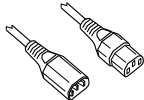
Spare parts

	Order no.	Image
Set PTFE sealings 10 pcs.	11059764	
Set PTFE sealings 2 x 10 pcs.	11085447	
Hose connection S19	11057159	
Set hose connections S19 4 pcs.	11085451	

Documentation

	Order no.
Kjeldahl Guide (EN)	11055033
Comprehensive guide covering all aspects of the theoretical and practical know-how	
Kjeldahl Practice Guide (EN)	11592548
Provides theoretical background information, useful hints and calculation tables for daily routine work	
Kjeldahl Practice Guide (DE)	11592547
Kjeldahl Practice Guide (CN)	11592549
IQ/OQ set (EN)	11059762
Complete set for Installation and Operational Qualification of the instrument	
Repeating OQ (EN)	11059763

Fume removal

Specification	Order no.	Image
Condensate bottle (secondary)	025100	
Connection cable to digester	030973	
The Scrubber is controlled by the digester by the cable connection (already incl. at Scrubber ECO models)		
Scrubber K-415 (TripleScrubECO)	114152331	
Ideal Scrubber model for Kjeldahl digestions at maximum automation		

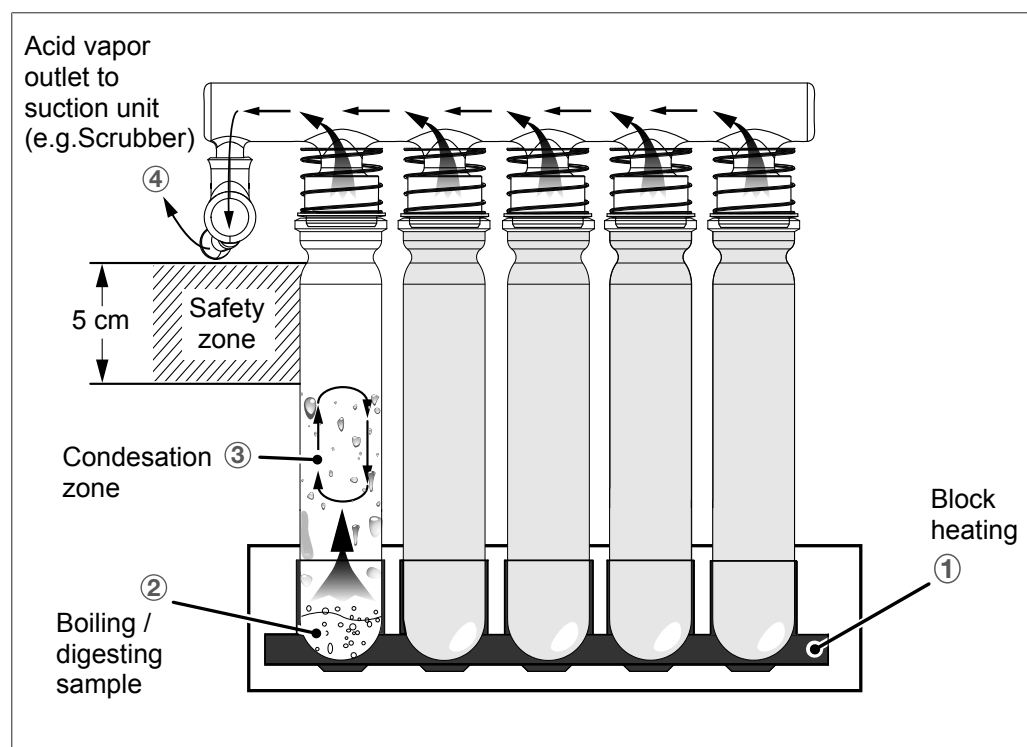
Kjeldahl tablets

	Order no.
Kjeldahl Tablets Titanium	11072627
For efficient digestions, 1000 tablets (3.5 g K_2SO_4 / 0.105 g $CuSO_4 \cdot 5 H_2O$ / 0.105 g TiO_2)	
Kjeldahl Tablets Titanium Micro	11072628
For small sample sizes, 1000 tablets (1.5 g K_2SO_4 / 0.045 g $CuSO_4 \cdot 5 H_2O$ / 0.045 g TiO_2)	
Kjeldahl Tablets Missouri	11072629
For efficient digestions without Titanium, 1000 tablets (4.98 g K_2SO_4 / 0.02 g $CuSO_4 \cdot 5 H_2O$)	
Kjeldahl Tablets ECO	11072630
For eco-friendly digestions with minimum amount of copper, 1000 tablets (3.998 g K_2SO_4 / 0.002 $CuSO_4 \cdot 5 H_2O$)	
Kjeldahl Tablets Antifoam	11072631
For foaming samples in digestions to avoid cross contamination due to foaming, 1000 tablets (0.97 g Na_2SO_4 / 0.03 g Silicone)	
Kjeldahl Tablets Copper Micro	11072632
For small sample sizes without Titanium, 1000 tablets (1.5 g K_2SO_4 / 0.15 g $CuSO_4 \cdot 5 H_2O$)	

Functional principle

The KjelDigester is used to convert organic bound nitrogen (e.g. in proteins) in a sample into ammonium sulfate. During the digestion process, acid fumes and reaction gases may emerge and are handled by the Scrubber K-415. The K-415 is connected to digester system for neutralizing acid fumes and adsorbing unpleasant odors.

- The aluminum block (1) generates high temperatures in the samples (2)
- The sample is digested in constantly boiling sulfuric acid
- Hot acid fumes rise into the condensation zone (3), and condense and rinse back down to the sample creating a constant reflux
- Residual fumes (4) which escape the condensation zone are highly corrosive and must be withdrawn and efficiently neutralized (e.g. with the Scrubber K-415)





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Technical data are subject to change without notice
Quality Systems ISO 9001

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