

# OPSIS LiquidLINE KjeIROC Distillation Unit

Distillation System with Unique Level  
of Serviceability and Automation



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# WHY KJELROC DISTILLATION UNIT?

In many tests there is a need to separate the substance of interest from the rest of the sample prior to analysis. e.g. SO<sub>2</sub> in food/wine and free fatty acids. Here a steam distillation often is the best solution and with the KjelROC Distillation Unit the control of the process is optimised.

OP SIS LiquidLINE and the KjelROC Distillation unit brings;

- Unique Level of Servicability with OP SIS LiquidLINE maintenance program and state-of-the-art service systems.
- Easily expandable system, possible to easily upgrade to a full KjelROC Analyzer.
- Complete Automatic System including Ethernet communication for simplified set-up and traceability.

## OP SIS LIQUIDLINE REDUCES MAINTENANCE COSTS

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- Unique Service System saves time and costs for maintenance.
- Component lifetime and maintenance costs are optimised with the help of OPSIS Component traceability program.
- Prepared for ISO 17025 and GLP features reduce time and costs when integrating the instrument into the Lab procedures.

## EXPANDABLE SYSTEM, LOWERS COSTS WHEN LAB REQUIREMENTS INCREASE

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- The KjelROC Distillation Unit can easily be upgraded to a full KjelROC Analyzer at a later stage. This saves considerable cost in case you later require a full system.
- The KjelROC Distillation Unit and the KjelROC Analyzer share similar User Interfaces, which makes it easy for an operator to handle both systems.

## AUTOMATION AND TRACEABILITY INCREASES EFFICIENCY AND REDUCES COSTS

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- Complete automation, including automatic addition of water and alkali.
- Full traceability with possibility to track samples as well as retrieve log files from the system.
- The possibility to send weights and retrieve log files makes it easy to implement fully traceable samples in your lab.

# BENEFITS

After more than 25 years of experience within analysis, we will now raise the standard for Quality Instruments, Information Exchange and Analysis in samples like Food, Forage and Liquids. The KjelROC is prepared for the future with several new, unique, benefits.

## EXPANDABLE SYSTEM

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The KjelROC Distillation Unit is designed for easy expansion to a full KjelROC Analyzer system.

- Possible to upgrade from Manual Distillation to Automatic Distillation (KD-210 to KD-210).
- Possible to upgrade from Automatic Distillation to Analyzer (KD-210 to KD-310), adding the titration module.
- Possible to upgrade from Analyzer to an Autosampler (KD-310 to KD-625)



## FULL AUTOMATION

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The KjelROC Distillation Unit is a fully automatic system that requires no manual intervention.

- User defined automatic addition of Water and Alkali
- User defined addition of Receiver Solution (only KD-210).
- Steam Generator can be regulated, from 10 to 100%.
- User defined behaviour with programmable delay and selection of tube drain.
- Retrieve log files for easy maintenance support, which lowers maintenance costs.

## FLEXIBLE WIRELESS COMMUNICATION

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Easy exchange with Wireless/Ethernet\* technology and standard File Transfer Protocol (ftp) makes it easy to set up your unit and makes it possible to trace your analyses on the Distillation Unit.

- Transfer to and from laptop computers, tablets and mobile phones - basically any device that has a WiFi or Ethernet client. Offers unique flexibility to integrate the instrument into the Lab at low cost.
- Send sample information to the instrument, to ensure traceability according to GLP.
- Retrieve log files for easy maintenance support, which lowers maintenance costs.

\* Ethernet Interface on instrument.  
Optional KjelROC Router can be added  
for WiFi communication



## ISO 17025 PREPARED WITH ADAPTIVE WORKFLOW

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Traceability of data files, QR component codes and user access levels to make it easy to implement ISO 17025. Use your existing Lab procedures or use our ready to use programs. The instrument is fully flexible to adapt to your demands which reduces integration costs.

- OPSIS Component traceability program allows tracking of components. It is also possible for a service engineer to retrieve lifetime status of main components.
- The KjelROC offers different access levels and menus according to GLP requirements. A dedicated menu allows the Lab manager to further control settings of the instrument such as Factory defaults and Time&Date.
- An extensive set-up of User Protection safety systems is included in the KjelROC Distillation Unit. Sensors will, for example, detect if tube is missing or if protection door is open. Automatic Tube Draining eliminates the need for handling hot reagents after distillation. Several other systems are also monitoring the operator activities.



A UNIQUE SYSTEM ALLOWS  
INDIVIDUAL TEST OF EVERY  
COMPONENT IN THE INSTRUMENT,  
WHICH REDUCES MAINTENANCE  
COSTS

## UNIQUE LEVEL OF SERVICEABILITY

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The KjelROC Distillation Unit has the latest, state-of-the-art, service system. This can make considerable cost savings for maintenance.

- Unique system that allows individual test of every component in the instrument via a Service menu. Saves time when identifying a component failure.
- OPSIS Component traceability program with QR codes on all main components makes it easy to order the correct spare part. Saves time when replacing components.
- Follow lifetime of internal components by Instrument Log file and recommend exchange of components prior to possible breakdown.
- Distillation Log files makes it easy to send service information back to OPSIS LiquidLINE technical support. Saves time when identifying application or instrument issues.
- Automatic self test with recommendations for user actions.
- Dedicated Managers menu to perform QC operations.



OP SIS COMPONENT  
TRACEABILITY PROGRAM MEANS  
THAT WE TRACK INDIVIDUAL  
COMPONENTS FROM FACTORY  
TO CUSTOMER VIA QR CODES.

# KJELROC AUTO DISTILLATION UNIT, KD-210-B

## KJELROC MANUAL DISTILLATION UNIT, KD-200-B

Technical Data	
Distillation Speed	40 ml/min at 230V
Measuring range	0.1 - 200 mgN
Reproducibility (RSD)	<1 %
Recovery	>99.5% (1-200 mgN)
Operating Temperature	5°C - 40°C, max 80 % relative humidity
Power Supply	190-240 VAC, 50-60 Hz, 10A
Power Consumption	max 2200 W
Cooling Water Consumption	1,75 l/min at 20°C
Steamgen. water Consumption	approx. 200 ml/analysis
Dimensions (WxHxD)	430 x 700 x 330 mm
Weight	30 kg
Graphics Display	7" 800x480 colour touchscreen
Safety	Safety sensors (Tube in Place-, Protection door- and Service door), Steam Generator sensors, Drip Tray, Tank level detectors, Maintenance warning systems
Electronic Steam Regulation	10-100%
Distillation Head	Easily exchangeable Splashhead with only one tube connector made of glass to reduce carry-over effects.
Password Protection	Three Levels with separate Managers Menu
Reagent Level Warning	4 x RJ-11 (External tank levels), OPSIS LiquidLINE flexible level detectors - adaptable for different reagent tanks. (optional accessory)
Data Communication	Ethernet (RJ-45) interface. Included KjelROC router for Wireless, 802.11 b/g
Automatic Distillation	Programs for automatic control of cooling water, dilution water and sodium hydroxide. Program to control distillation process. Automatic Tube drain included.
Advanced Features (only KD-210)	Pump and Programs for automatic addition of receiver solution.
Future Expansion	All KjelROC Units from OPSIS LiquidLINE are expandable, which means that it is possible to upgrade a Distillation Unit to an Analyzer and Sampler system. Please contact OPSIS LiquidLINE for further information.
Programs	Standard Method, Special Method with traceability and Auto Clean. User-configured five program buttons directly accessible from main menu.
Daily Maintenance	Manual and Automatic Cleaning programs

*Specifications subject to change without notice*

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