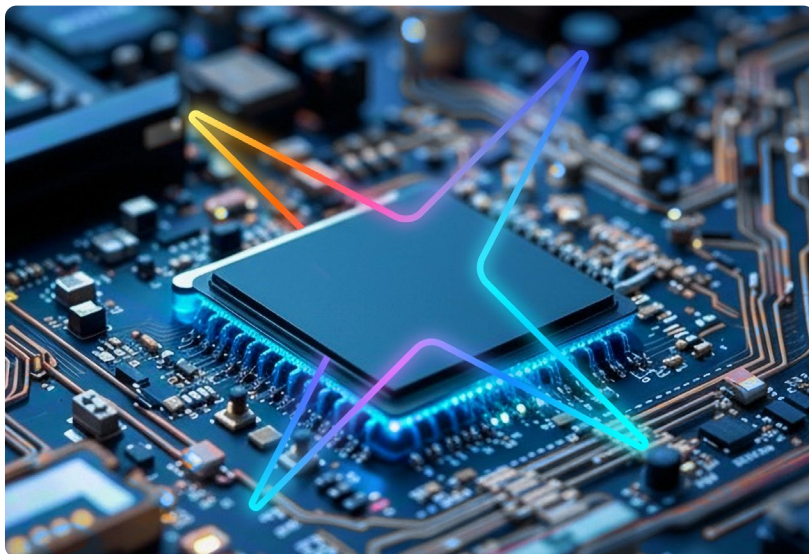


Ultra-Pure Water+



Urea Analyzer

Technical Data Sheet

PURPOSE

Urea is a critical contaminant in Ultrapure water (UPW) for semiconductor manufacturing because it contributes to total organic carbon (TOC) concentration and can adversely affect photolithography processes.

Ovivo's UREA analyzer, a newly innovated product, provides continuous and accurate urea measurements with four sampling channels.

INSTALLATION

Ovivo's UREA analyzer shall be installed indoor. Installation is performed by trained service technicians. Final user are trained on the use of the analyzer by Ovivo.

OPERATION

- Automatic sampling after analysis is finished
- Up to 3 data points per hours
- Designed for continuous operation (24/7)
- Possibility for semi automatic injection of grab sample
- Low consumption of chemicals
- Minimal maintenance needs
- Wide range of urea concentration
- Seamless chromatogram integration and interpretation, now with a more intuitive, user-friendly software design based on AI interpretation/integration
- Direct process connection

TYPE

- Raw water
- RO feed, RO Permeate
- UPW
- Reclaim water

CONDUCTIVITY	µs/cm	0.05 ... 1000
TURBIDITY	NTU	< 0.5
TSS	ppm	< 1
PRESSURE	bar	1 ... 10
CONNECTION	inch	1/4 tubing



ECOLAB®

Ultra-Pure Water+

PERFORMANCE

PRINCIPLE	LC-OND (liquid chromatography-organic nitrogen detection)
QUANTIFICATION RANGE	3 ppb ... 1000 ppb as Urea
LOD/LOQ	1/3 ppb
ACCURACY	+ - 10% < 100 ppb Urea
REPEATABILITY	+ - 5% < 100 ppb
# OF SAMPLING CHANNELS	4
VOLUME PER SAMPLE	< 50 mL
AVERAGE SAMPLE TIME	Up to 3 measurement per hours
OPERATION MODE	Automatic / selectable sequence – semi automatic grab sample

COMMUNICATION

COMMUNICATION	PROFINET
REMOTE FEATURES	Remote channel activation Feedback system alarm
SERIAL INTERFACE	On Demand

FLOW DIAGRAM

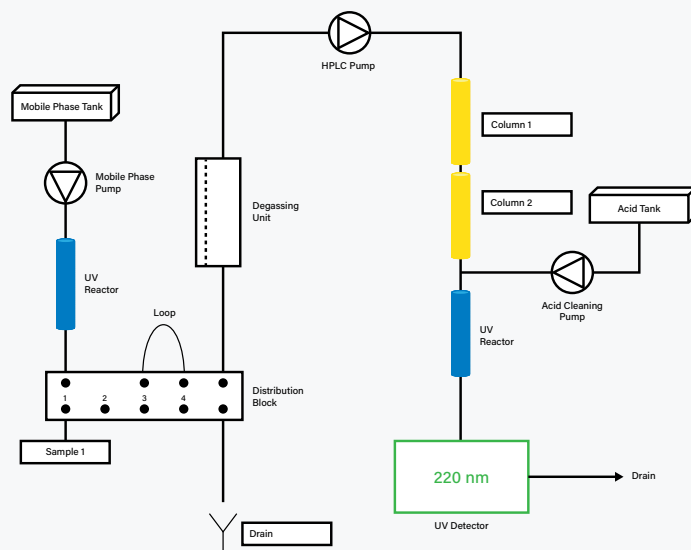
The mobile phase, consisting of a salt buffer, is continuously pre-cleaned using a specially designed UV oxidation reactor.

A defined volume of the aqueous sample is introduced into the continuous mobile-phase stream using a sample loop. The combined stream is then delivered by an HPLC pump to succession of chromatographic column, where urea is separated from other nitrogen-containing species.

After separation, the solution passes through a short-wave UV oxidation reactor, where the urea is quantitatively converted to nitrate. The resulting nitrate is subsequently measured using a UV detector at 220 nm.

The individual nitrogen-containing species are identified based on their specific retention times, while quantification is performed using the corresponding peak areas.

Between consecutive samples, the UV oxidation reactor is cleaned with an acidic solution.



REQUIREMENTS

POWER	110–240 VAC 50/60 Hz 1200W
HUMIDITY	0-90% relative humidity, non-condensing
TEMPERATURE	5–40 °C
SIZE (W x D x H)	Dimensions (W x H x D): 600 x 1,481 x 888 mm
WEIGHT	175kg

OTHER INFORMATION

DISPOSAL	• Disposal must be in accordance with the appropriate local regulations
SAFETY ADVICE	• Risk of pressure cut hazards • Improper operation or usage of the UV Reactor for none intended purpose may endanger the health of the operator, damage equipment and/or prevent efficient operation of the plant. • Unauthorized modification of the UV Reactor will void warranty. We recommend using only original spare parts for system maintenance.
GLOBAL KNOWLEDGE CENTER	Ecolab Ultra-Pure Water+ office Benkenstrasse 262 4108 Witterswil Switzerland

Contact your local sales representative for more information.

Ecolab Global Water Headquarters

1601 West Diehl Road
Naperville, IL 60563

Ecolab.com

Ecolab, Nalco Water and the logos are Trademarks of Ecolab USA Inc.
©2025 Ecolab USA Inc. All Rights Reserved

