



Automatic nutrient measurement

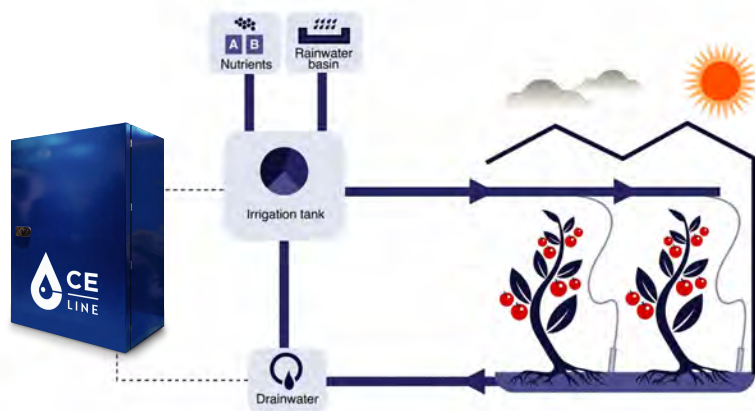
DRAMM

Complete control of water and nutrients...

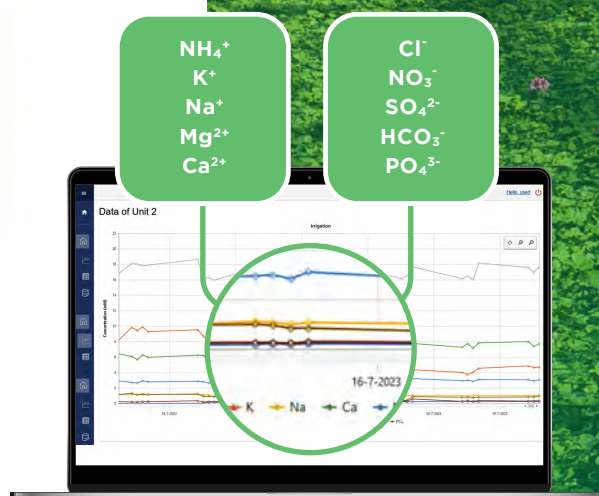
CE-Line offers an innovative solution for automated nutrient measurements designed for horticulture, providing a seamless "plug & play" experience for monitoring essential nutrients in both irrigation and drain water.

The integration of CE-Line into the greenhouse watersystem ensures effortless sampling and it independently performs fully automated cleaning and calibration cycles. This streamlined process not only guarantees data accuracy at laboratory-quality levels but also accelerates the availability of crucial information. Within just one hour, precise concentrations of macro and micro-nutrients in mM/L or mg/L are readily accessible, facilitating both manual and automated dosing of the optimal nutrient mix.

...resulting in optimization and risk reduction



Avoiding the risks of over- and under-dosing, CE-Line enhances crop yields, facilitates precise crop planning and enables a fully closed water system. This not only conserves water but also minimizes nutrient waste, and therefore costs. With multiple daily measurements and cloud-based accessibility, CE-Line ensures continuous operational reliability.



1
Higher yield (3-5%) and better quality
HIGHER YIELD

2
Better planning and control of growth
PLANNING

3
Closed cultivation system without drainage
RECYCLING

4
Control of dosing and irrigation system
CONTROL

5
Automatic sampling and analysis
AUTOMATION

Technical information

Specifications	
General Information	
Dimensions	970mm x 920mm x 410mm
Weight	90 Kg
IP rating	IP54
Power	600W
Measurement Information	
Measurement time per sample	60 minutes
Measurement components	Charged components, <i>see list of elements on front page</i>
Unit of concentration	mM/L, mg/L or similar
Concentration range	0,05 mM - 30 mM
EC range	0,1 - 10,0 mS/cm
pH range	4 - 9
Filtration	0,1 - 0,5 micron required, equipment available
Data	
Data storage	Cloud database
Data visualisation	Cloud portal, display interface
Accuracy	>95% *
Repeatability	>95% **
Reagent Set	
Capacity	Suitable for 1 month with 8 measurements per day
Refill cycle	Monthly
Shelf life	3 months at room temperature, 1 month after opening
Replacement method	Manual replacement
Maintenance Measuring Instrument	
Maintenance	Semi-annual maintenance (serviced, or DIY after training)
Installation requirements	
Location	Inside, water treatment room, no direct sunlight
Environmental conditions	Between 5°-45°C and 10-90% humidity
Fixture	Affix to sturdy wall or rack
Method	Hangs on hooks, bracket available
Communication	230VAC, ethernet
Distance to measuring point	Location dependent
Measuring point	Pressure: 0,3-1 Bar (maximum 3)
	Flow: 20L/min
	Connection: 40mm to 6mm on filter
	Filtration: 0,1-0,5 micron, filter (advice) available

* Compared to reference laboratories (WUR measurement)

** Following validation certification NEN-EN-ISO/IEC 17025:2018nl

