



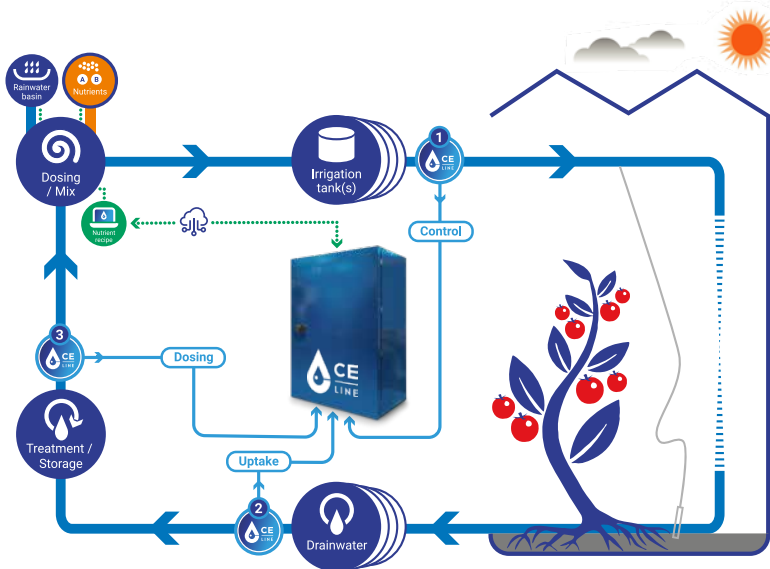
# Automatic nutrient measurement

## 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 water system 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 macronutrients 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 underdosing, 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	
<b>General Information</b>	
Dimensions (LxHxD)	1050 mm x 1040 mm x 415 mm
Weight	90 Kg
IP rating	IP54
Power	Max 500W
<b>Measurement Information</b>	
Measurement time per sample	Approximately 1 hour
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
<b>Data</b>	
Data storage	Cloud database
Data visualisation	Cloud portal, display interface
Accuracy	>95% *
Repeatability	>95% **
<b>Reagent Set</b>	
Capacity	Suitable for 1 month with 8 measurements per day
Refill cycle	Monthly
Shelf life	1 month after opening. Unopened, store in a cool place < 10°C
Replacement method	Manual replacement
<b>Maintenance Measuring Instrument</b>	
Maintenance	Semi-annual maintenance (serviced, or DIY after training)
<b>Installation requirements</b>	
Location	Inside, water treatment room, no direct sunlight
Environmental conditions	Between 15°C - 40°C and 10% - 90% humidity
Fixture	On skid or wall
Method	Bolts (included)
Communication	110/230VAC, 16A, ethernet
Distance to measuring point	Location dependent
Measuring point	Pressure: 0.3 - 1 Bar (maximum 3)
	Flow: 20 L/min
	Connection: 6 mm push in tube, when using CE-Line filter 40 mm
	Filtration: 0.1 - 0.5 micron, filter (advice) available

\* Compared to reference laboratories (WUR measurement)

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



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