Eijkelkamp
Soil & Water

Evapotranspiration, the biggest cause of water loss on earth

Meet the difference

Evapotranspiration, the biggest cause of water loss on earth

We can see rain and snow, but we can't see the biggest cause of water loss in almost every area on earth: evapotranspiration. Reliable figures are lacking on this invisible water loss largely because evapotranspiration is so difficult to measure.

Accurate measurements of evapotranspiration can be obtained from advanced hydrometeorological equipment or from direct measurements of water content changes in the soil. The first type of measurements have as a disadvantage that the representative area of the measurement changes according to wind speed, wind direction and land use. This disadvantage does not count for direct measurements of soil moisture change. The most accurate way of measuring soil moisture content change is by weighing a representative undisturbed soil column with high frequency.

The biggest handy lysimeter in the world

The patented, high-quality, Eijkelkamp Smart Lysimeter provides these measurements, by using a system of weighing cells to measure water content changes and sensors to mimic the surrounding soil water conditions in an isolated undisturbed soil column. In this way accurate data on the soil water content and water fluxes (including evapotranspiration and groundwater recharge) are obtained. By installing additional sensors, extra information can be gathered on vertical gradients of soil moisture, matric potential, temperature and electrical conductivity. The use of a telemetric system provides a high temporal sampling resolution.

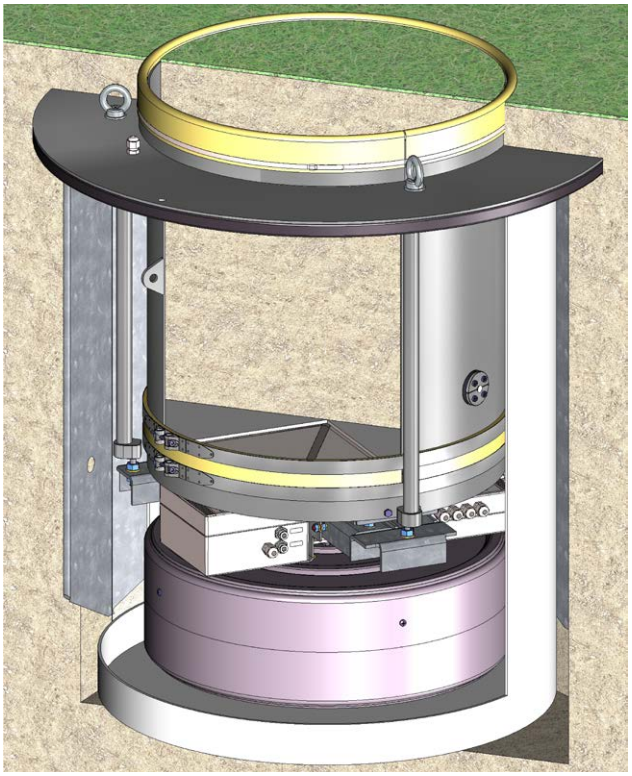
Two types of lysimeters are available:
- Eijkelkamp Smart Lysimeter, moisture controlled set
- Eijkelkamp Smart Lysimeter, percolated set

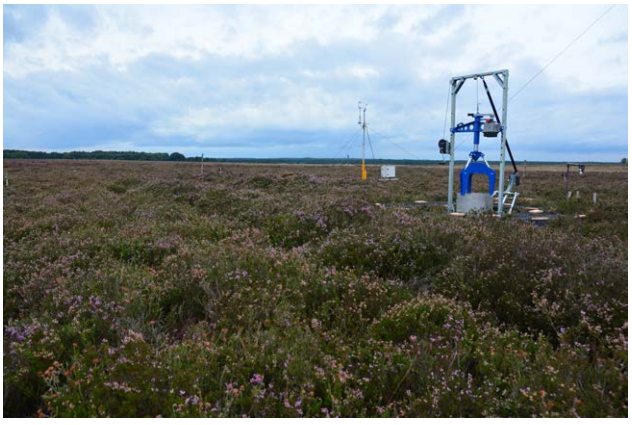
Features

- Scientific support from partners
- Patented design
- Undisturbed 50cm soil monolith (sample)
- Sensors in soil monolith
- Infrared sensors for integrated metering
- Local data logging via SDI-12
- Telemetric communications web portal
- Product training
- Installation tools
- Installation service

Applications

- Climate research
- Agriculture
- Nature management
- Reference measurement for remote sensing
- Scientific research
- Water Boards
- Drinking water companies



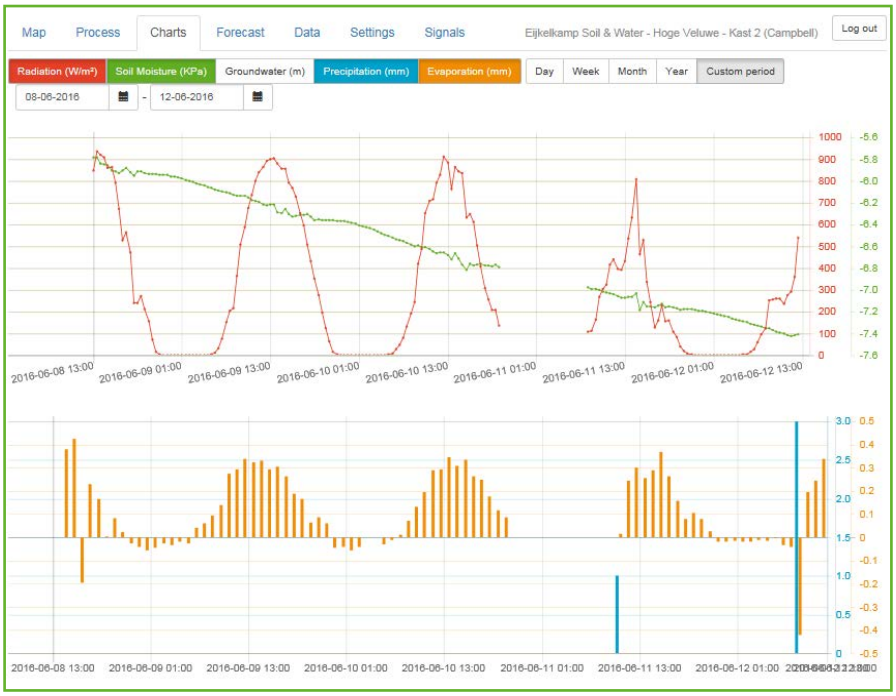


It all starts with a in-depth installation

Installation of the Eijkelkamp Smart Lysimeter on the selected site can be done by our experienced and skilled Technical Projects team. During installation the Eijkelkamp Lysimeter Installation Toolkit will be used to minimize disturbance of the surroundings.

Evapotranspiration data in the cloud

As a telemetric system is offered, the data visualization will be done by means of a web portal, offering visualization of the measurement location in terms of pictures and graphics, data graphical representation of measurements values, alarm generation, options to export data to CSV-format and system status (measurement interval, send interval, battery status, etc.).



Cooperation in development

The development of the Eijkelkamp Smart Lysimeter is co-financed with TKI-funding from the Topconsortia for Knowledge & Innovation (TKI's) of the Dutch Ministry of Economic Affairs. Projectpartners are KWR, Alterra, Vitens, KNMI, De Hoge Veluwe National Park, Provincie Gelderland, STOWA and Eijkelkamp Soil & Water.

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Types and accessories

Eijkelkamp Smart Lysimeter, moisture controlled set

16.80 Eijkelkamp Smart Lysimeter, complete set for measuring real evapotranspiration in the field, consisting of a moisture controlled, weighing lysimeter, with field reference tensiometer, sheet piling foundation.
Optional: monolith soilmoisture sensors, telemetry, data web portal and solar panel.

Eijkelkamp Smart Lysimeter, percolated set

16.81 Eijkelkamp Smart Lysimeter, complete set for measuring real evaporation in the field, consisting of a percolating, weighing lysimeter and sheet piling foundation.
Optional: monolith soilmoisture sensors, telemetry, data web portal and solar panel.

Additional accessories

16.82 Monolith soil moisture sensor set
16.83 Infrared sensor set lysimeter
16.84 Lysimeter installation set

Specifications

Sample

Sample type	Undisturbed
Sample diameter	50 cm
Sample depth	50 cm
Sample volume	98 L

Mechanical

Size	D 83 cm H 98 cm
Weight	100 kg
Product material	RVS 304, plactic, galvanised steel

General

Measured parameters	Evaporation, rain
Measuring principles	Weighing
Measuring accuracy	0,1 mm evap/rain
Reading accuracy	0,01 mm evap/rain
Maximum force	300 kg
Power supply	Battery/solar
Voltage	12 volt
Data transfer	SDI-12 / USB
Data plug type	M12 circular 4pole male / USB
Water tight connection	Yes
Type of registration	Telemetric / SDI-12 logger
Programming possibility	Yes
Number of channels	25
Frequency of registration	5 sec...15 min
Alarm type	Software

More information

If you would like more information about the Eijkelkamp Smart Lysimeter, please contact our sales team at sales@eijkelkamp.com or +31 313 880 200.

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