

MOOR LYSIMETER



Patented & proven

In our weighable set up lysimeter vessel you can record the soil temperature, the matrix potential as well as the redox potential in different depths and measuring profiles. In the inlet and outlet area of the lysimeter (hollow chambers with permeable side walls) the water levels are measured.

Using this special lysimeter, the limitations of conventional lysimeters can be overcome and horizontal flow processes can be investigated in an undisturbed soil monolith with a volume of 6 m³ (4 m length, 1.5 m depth and 1 m width) and a mass of over 9,000 kg.



Patented sampling technology for organic soils

With our patented lysimeter sampling technique for organic soils, columnar monoliths up to a diameter of 200 mm can be obtained by vertical piercing.

In addition to the substrate response, laboratory and field experiments can be carried out on the large-volume, undisturbed bog columns to investigate mass transfer processes and microbial changes, as well as tracer experiments in relation to different degrees of bog drainage.

Our lysimeter services

- ✓ Workshops
- ✓ Design and installation of monitoring systems
- ✓ Lysimeter excavation
- ✓ Lysimeter soil retrieving
- ✓ Operation of lysimeter experiments
- ✓ Determination of soil hydrological specific values
- ✓ Data logging and evaluation
- ✓ Support and maintenance of instruments and plants
- ✓ Guarantees, maintenance and repair

Your project. Our solution.

Just get in touch with us if you have an idea, a research project or other need. Together we will find a suitable solution for you!

We look forward to your call or e-mail.

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SAVE PEATLANDS - PROTECT CLIMATE

We have the
technology for it

- Groundwater level measuring
- Greenhouse gas emission monitoring
- Total water balance in the soil



CHALLENGES IN PEATLAND RESEARCH

Peatlands play an important role in storing carbon and regulating water budgets. In the context of climate change mitigation, close cooperation between scientists, engineers, and environmental experts to develop innovative solutions for measuring and monitoring peatlands.

There are several measurement challenges around the conservation of peatlands. We have the right technology for this, e.g. to measure water level, gas flow or carbon.

Understanding long-term changes in peatlands also requires continuous measurements over many years. This requires reliable and robust measurement technology. Our proven sensors, the tried and tested measuring hoods and our special bog lysimeter are perfectly suited for this purpose.

Our solutions and products:

Soil hydrological measuring stations

-> Give conclusions on water transport, water storage capacity, sediment contamination



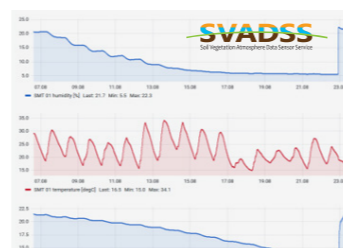
Conception and installation of soil hydrological measuring stations



HydraProbe (soil moisture, temperature, conductivity); **SMT-100** (soil moisture, temperature)



Tensiometer for the measurement of soil water potential



Database system, Remote data transmission, Automated data processing

Moor probe



The **ILLNER moor probe** is designed for taking semi-homogenous samples during soil investigations in peat soils or soft sediments, peat soils, peat mosses, but also sampling in powdery and granular materials. Especially for environmental investigations, but also for the investigation of filter beds or paleontological investigations and pollen analyses this sampling device is used.

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Groundwater level and quality

Aqua TROLL multi-parameter probes, including the new sensor for FDOM (Fluorescent Dissolved Organic Matter), as a proxy parameter for carbon content, **Rugged TROLL** level logger for measuring groundwater levels, also with remote data transmission via LTE/NB-IoT



Recording of meteorological parameters

Weather station (wind speed, wind direction, temperature, humidity, air pressure, radiation, precipitation, solar panel, with data logger or remote transmission via NB-IoT/ LoRaWAN)



Greenhouse gas emissions

Picarro G2508 CRDS Analyzer for precise measurement of the concentration of nitrous oxide (N₂O), methane (CH₄), carbon dioxide (CO₂), ammonia (NH₃) and water (H₂O)
Picarro G2201-i CRDS analyzer for the determination of δ¹³C for methane (CH₄) and carbon dioxide (CO₂)



Manual/automatic/mobile or open and closed **Hood systems** for soil gas measurement



Lysimeter for the measurement of the total water balance

Moor lysimeter to investigate the effects of the rewetting of peatlands on the mobilization and conversion of various substances in the soil and on the quality of surface water



Specialized **sampling technology** for saturated soils
Ready-to-Go Lysimeter, optionally with groundwater control and pore water extraction

