UGT UMWELT GERÄTE TECHNIK

MOBILE MEASURING CHAMBERS

Automated for peatland



For HSWT, we have installed specially manufactured gas measuring chambers for organic soils.
The automatically movable gas detection chambers can be moved along predefined transects.
This enables systematic data acquisition and facilitates the identification of gas concentration patterns.

- ✔ For long-term tests with high temporal repeatability
- ✔ Minimization of working time and supervision

Automatic Y-gas measuring chamber



For the automated measurement of trace gases from soil emissions with connection to a gas analyzer

- ✔ Transparent chamber for the detection of NEE + R_{eco} (ecosystem respiration)
  R_{eco} = CO_2 R_{soil} (soil respiration) + R_{plant} (plant)
- ✔ Opaque chamber for quantifying soil respiration

We are a partner of:

PICARRO

the professional for gas analysis



Your project. Our solution.

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

We look forward to your call or e-mail.

+49 33432 7559-0 | info@ugt-online.de

Umwelt-Geräte-Technik GmbH
Eberswalder Str. 58 · D-15374 Müncheberg
P. +49 33432/7559-0 · info@ugt-online.de

Branch Munich
Lindberghstr. 7a · D-85399 Hallbergmoos
P. +49 811/124478-0 · info-sued@ugt-online.de

UGT UMWELT GERÄTE TECHNIK *The Solutionists*

MORE THAN STANDARD





GAS FLOW MEASUREMENT

Chamber technology from UGT

Measurement under field conditions

Open and closed systems

Optimally adapted to your project

Even more info at:
www.ugt-online.de

Challenges in the

GAS FLOW MEASUREMENT

A prerequisite for the analysis of soil-borne gases and the gas exchange between soil, plants and the atmosphere is the detection of these gases so that they can be fed into an analyzer.

Gas measuring chambers have proven themselves as a reference method, which either generate a controlled gradient (open systems) or which interrupt the exchange for a certain period of time (dynamic closed systems).

UGT offers a wide range of customized solutions, tailored to the plant population and the problem at hand. Especially in combination with the Picarro gas analyzers, precise and customized solutions are available.

INTERESTING FACTS ABOUT GAS MEASURING CHAMBERS

- ✔ Open systems allow exchange via the upper edge and provide a measuring section underneath in which flow rates can be determined based on the gradient. The upper opening ensures that the plants are affected as little as possible and that the temperature and gas temperature and gas composition differ little from the environment. The disadvantage of this system is that wind disturbs the gradient. The chambers are therefore only recommended in windless areas.

- ✔ Closed systems can either be used as a fixed installation over a certain period of time to determine the intake or depletion of the gas fractions over a certain period of time, or by means of a mobile installation. Closure to accurately determine the time-varying flows.

- ✔ Gas measurement chambers can be transparent or opaque.
  With transparent chambers, the sum of the gas fluxes resulting from soil respiration and plant metabolism.
  With opaque chambers, only gases from dark respiration are measured.



OUR SOLUTIONS AND PRODUCTS



MOBILE GAS MEASURING CHAMBER TRANSPARENT

Determination of the exchange capacities of gases between plants or soil and the atmospheree

- ✔ Mobile gas measurement under field conditions
- ✔ Clearly defined measurement & high accuracy
- ✔ Available as open path or closed path application



MOBILE GAS MEASUREMENT CHAMBER OPAQUE

Closed gas measurement from dark respiration

- ✔ Mobile gas measurement under field conditions
- ✔ Clearly defined measurement & high accuracy
- ✔ Available as open path or closed path application

TerraFlux

Available in opaque and transparent versions with either 300 or 500 mm diameter

- ✔ Enables precise measurement of net ecosystem exchange (NEE) from soils or measurement of soil respiration (SR)
- ✔ Closed dynamic system (non-steady-state through-flow)
- ✔ Easy connection to gas analyzers and/or UGT Multiplexer



A recirculating **UGT Multiplexer** for flexible operation of automatic gas chamber systems (closed loop).
With 16 sample ports, the system enables precise, sequential sampling with minimal dead volume thanks to a central rotary valve – ideal for highly dynamic measurement applications.