

ECOLAB FLEX



Specifications

- ✓ Soil unit with soil sensors (temperature, tension, water content, redox potential), root tubes, suction probes or suction plates, soil cooling system and precision weighing technology
- ✓ Atmospheric unit with climate sensors (temperature, humidity, PAR), aeration, irrigation and sunlight via Lighting unit with high power LEDs, dimmable wavelengths (blue, red, white) and simulation of daylight cycles
- ✓ Control unit with power supply and control of sensors and actuators as well as data storage

Product advantages

- ✓ Only one device to study the complex inter-relationships between pedosphere, flora, fauna and atmosphere
- ✓ Versatile adaptability of the system to specific research questions
- ✓ Small footprint with high scientific efficiency
- ✓ Easy setup by two persons without motorized aids is possible
- ✓ Access to the system via PC or smart device

Examples

The range of control parameters such as light, temperature and humidity can be customized. We will help you to make the right choice for your project!

EcoLab 500 BASIC

1,200 mm × 1,200 mm × 3,000 mm (L × W × H)

SOIL UNIT

Housing	Ø 770 mm, height 980 mm, equipped with inspection door, alucobond and aluminum profiles
Lysimeter vessel	Ø 500 mm, height 900 mm, compatible with Ready-To-Go lysimeter family stainless steel, 14301
Sensors	10 x pressure-tight sensor feedthroughs tensiometer, soil moisture temperature probes, suction probes

ATMOSPHERIC UNIT

Hood	Ø 610 mm, height 1,500 mm, opaque polymer material equipped with inspection door, gas-tight
Ventilation	Integrated outlet with dust filter and exhaust fan (open system)
Lighting	High power LEDs with dimmable adjustable wavelength channels, photosynthetically active photon flux density up to 1,000 µmol/m ² s near the ground surface, day/night cycle
Irrigation	Spray or drip irrigation, height-adjustable and rotatable, flow measurement
Sensors	Humidity, temperature, PAR sensor

CONTROL UNIT

Color display, Power supply	380 x 380 x 210 mm, 230 V / 110 V AC
--	--------------------------------------

EcoLab 500 ADVANCED

with extensions in the soil and atmospheric unit for more project variations, e.g.:

Ventilation	Regulation of air humidity and air cooling in the soil and atmospheric unit
Lighting	Light configuration as desired (up to 2,500 µmol/m ² s possible)
Extensions	Customer specific (ORP redox, CO ₂), heat flow Additional connection for Picarro gas/water analyzers (incl. isotopes)



ECOLAB FLEX

Creates nature – the easy way to explore your mission

The EcoLab flex creates a simulated mini-ecosystem in the laboratory requiring only a small footprint.

A continuum of SOIL, PLANTS, AIR, WATER and SUN – everything is in your hands. You determine, influence and measure the variables in your ecosystem!



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

ECOLAB FLEX

You control the parameters for your research project!

No matter what climate scenarios you are working with, from dry to humid, hot to cold, whether a weak breeze or a hurricane, lots of sunlight or high humidity, groundwater level high or low, everything can be simulated with the integrated systems in the EcoLab flex. When it comes to soil, you have the choice of either using UGT's proven Ready-To-Go lysimeter sampling technology and getting the undisturbed soil core from the field into your lab, or creating your own soil as needed!

The EcoLab flex offers a well thought-out concept from the idea through implementation to the result.

Easy operation, uncomplicated monitoring and quick changes of scenarios from anywhere via the innovative PLC control system, which automatically controls all actuators (e.g. lighting, irrigation, air conditioning, etc.). Insights into the development of your project or the growth of the plants are possible with the integrated camera in the atmospheric unit at any time and anywhere with a smart device.

Two components – great effect!

The EcoLab flex consists of two components that build vertically on each other:

- ✓ The EcoLab flex soil unit to study processes in the soil and the influence of flora and fauna on the soil.
- ✓ The EcoLab flex atmospheric unit as an aboveground-habitat for flora and fauna.

EcoLab flex – the space miracle!

The EcoLab 500 only requires a space of approximately 1.2 x 1.2 x 3.0 meters for example. The height can be customized.

All measurement parameters can be integrated into it. Sampling is simple. Existing storage surfaces make working on the system amazingly easy.



ECOLAB FLEX

It's simply smart!

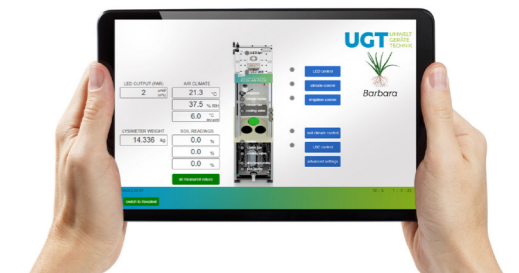
plug & proof – more than standard

extension of the measuring components according to your standards



connect & control – wherever you are

control via PC or smart device



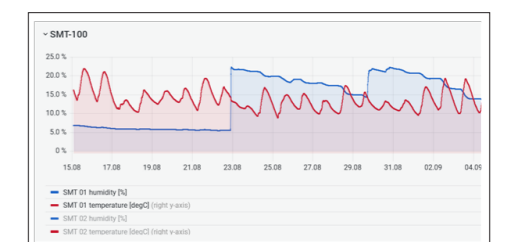
in- & outdoor – with the Ready-To-Go system family

compatible technology for measurements of the ecosystem in the field and in the laboratory



easy & quick – whenever you want

easy sampling and fast data provision



The soil – the basis of your mission!

As a new part of our Ready-To-Go system family, it is very easy to integrate soil monoliths into the EcoLab flex. This is a great advantage for your scientific investigations because it allows you to start your experiments in the field and continue them under defined laboratory conditions. Various climate scenarios can be imitated and already allow forecasts for future developments.