

YP-TH1 Soil Respiration Analyzer



1. Instrument Overview

The Soil Respiration Analyzer can display real-time changes in CO₂, H₂O, temperature and atmospheric pressure inside the respiration chamber. It is widely used in the fields of agricultural ecological research, carbon source and sink research, global climate change, land use change, ecological restoration, soil microbial activity assessment, plant ecological research, insect and root respiration research, as well as fruit storage.

Soil respiration is an important process of carbon cycling in soil ecosystems, a result of the balance between carbon assimilation and dissimilation, and also the main way for carbon in terrestrial ecosystems to return to the atmosphere, reflecting the biological activities in the soil. Accurate determination of its emission is the key to evaluating the biological processes of ecosystems. By monitoring soil respiration and related parameters, the responses of plant roots and soil microorganisms to climate change can be estimated.

2. Instrument Features

1. Equipped with Android operating system for more convenient human-computer interaction;
2. 7-inch high-definition touch screen with simple operation and clear interface;



3. Gas flow rate can be set via the instrument, enabling experiments on soil respiration intensity under different flow rates;
4. Specialized dynamic analysis software that displays the experimental process in real time on the Android screen, eliminating the need to copy data to a computer for sorting and analysis;
5. ★Supports WiFi and 4G network connection; with cloud service, data can be uploaded to the cloud platform wirelessly;
6. 16G storage space, capable of storing more than 100,000 pieces of data;
7. Data can be directly exported to a USB flash drive through the USB interface with driver-free plug-and-play;
8. Test data results can be directly printed and uploaded upon completion of detection;
9. Supports GPS positioning.

3. Technical Specifications

CO₂ : Measuring range 0-5000ppm, Accuracy 1%VOL, Resolution 1ppm, Lower detection limit $\leq 1\%VOL$
H₂ O (Humidity): Measuring range 0-100%RH, Accuracy $\leq \pm 2\%RH$, Resolution 0.001%RH, Lower detection limit $\leq 1\%RH$
Atmospheric Pressure: Measuring range 300-1100hPa, Resolution 1hPa, Error 10hPa
Respiration Chamber Temperature: Measuring range 0-50°C, Resolution 0.001°C, Error $\leq \pm 0.2^\circ C$
Respiration Intensity/Carbon Flux: Unit $\mu mol/m^2 \cdot s$, automatically converted by the instrument based on CO₂



measurement data Gas Flow Rate: Standard 800ml/min, adjustable Respiration Chamber
Size: 180mm(H)×100mm(D) Respiration Chamber Volume: 1413cm³ Power Supply: 12VDC
lithium battery, 8 hours of battery life when fully charged Packing Size: 550 × 245 ×
375mm Packing Weight: 7.2kg

4. Packing List

Serial No.	Name	Quantity	Unit
1	Main Unit	1	Set
2	Respiration Chamber	1	Pcs
3	Charger	1	Pcs
4	Data Cables (Tubes)	1	Set
5	Instruction Manual	1	Copy
6	USB Flash Drive	1	Pcs
7	Packing List	1	Copy
8	Certificate of Conformity	1	Copy