

# New Soil Gas Flux Survey Solutions

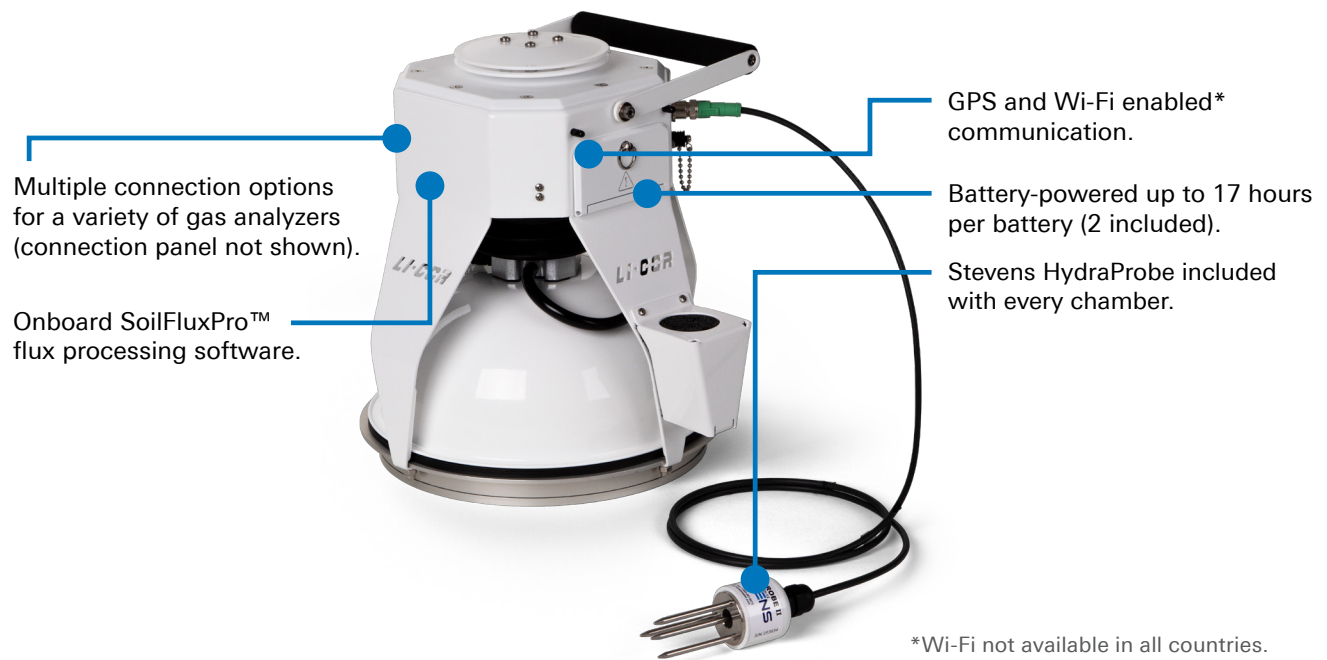
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Quickly and comfortably assess the spatial variability of a broader range of gas species with expanded analyzer capabilities.



# New Smart Chamber

The latest advancement in soil gas flux technology from LI-COR: The Smart Chamber is a portable, self-powered, GPS and Wi-Fi\* enabled survey chamber capable of real-time flux processing, soil moisture and temperature ancillary data collection, and complete self-control of gas flow to a wide range of analyzer options.



## Built Upon a Legacy of Scientific Advancements

Expand your soil gas flux measurement capabilities with the same patented technology unique to LI-COR chambers, including patented pressure vent, chamber air mixing and bowl design, and an automated bellows mechanism that minimizes pressure changes that may impact fluxes.

## Powerful and Versatile Software

Capture and store fully-calculated flux and other data in real time, program measurements in the field, and monitor your system onsite using embedded Wi-Fi.

## Expanded Gas Analyzer Compatibility

Assess the spatial variability of a broader range of gas species quickly and comfortably with flexible new analyzer capabilities, including methane fluxes with LI-7810 CH<sub>4</sub>/CO<sub>2</sub>/H<sub>2</sub>O Analyzer.



# New LI-870 CO<sub>2</sub>/H<sub>2</sub>O Analyzer

The LI-870 is housed in a dust- and splash-resistant case. Temperature-controlled optics provide precise measurements in a variety of environmental conditions.



## Simple Configuration

No user assembly is required to operate the LI-870. Simply attach the pre-made cable assembly with convenient quick-connect fittings to the Smart Chamber and get measuring. Power is supplied directly from the chamber with up to 20 hours of use (for a typical use case, using 2 batteries supplied with the Smart Chamber).

## Rugged Case

The LI-870 is dust- and splash-resistant and temperature-controlled optics provide precise measurements in a variety of environmental conditions.

## Smart Chamber Advantages

With the new Smart Chamber, you can view your LI-870 measurement and diagnostic data in real time from your computer or mobile device and quickly get data formatted for visualization and analysis with SoilFluxPro™ Software.

# Specifications

## Smart Chamber (8200-01S)

**Bowl Diameter:** 20 cm

**Chamber Volume:** 4244.1 cm<sup>3</sup>

**Soil Area:** 317.8 cm<sup>2</sup> (49.3 inches<sup>2</sup>)

**Air Temperature Thermistor:**

- Operating Range: -20 to 70 °C
- Accuracy: ± 0.5 °C over 0 °C to 70 °C

**Barometric Pressure Sensor:**

- Operating Range: 50 - 110 kPa
- Accuracy: +/- 0.4 kPa
- Resolution: 1.5 Pa (typical)

**Operating Temperature Range:** -20 to 50 °C

**Battery Life:** 20 hours (10 hours per battery, 2 batteries, when powering LI-870 for a typical use case).

**Weight:** 4.3 kg (9.6 lbs, including battery)

**Memory:** 8 GB total non-volatile (includes operating system and user data files)

**GPS Accuracy:** 2.5 m CEP

**Wi-Fi:** 2.4 GHz, 801.11g\*

\*not available in all countries

**Connectivity Ports:**

- USB-A: sealed and strain-relieved, for connection to LI-870 CO<sub>2</sub>/H<sub>2</sub>O Analyzer.
- RJ-45 Ethernet: Sealed and strain-relieved, for connection to LI-COR Trace Gas Analyzers.
- USB-B: Sealed and strain-relieved, for connection to non-LI-COR gas analyzers
- USB-A: standard, for connection to external Wi-Fi adapter.
- SDI-12 interface (Stevens HydraProbe included).
- Type-E thermocouple adapter port.

## LI-870 CO<sub>2</sub>/H<sub>2</sub>O Analyzer

**Case Dimensions:** 28.4 cm L x 27.9 cm W x 12.4 cm H (11.2 in x 11 in x 4.9 in)

**Weight:** 2.31 kg (5.1 lbs.)

**Measurement rate:** 1 measurement per second (1 Hz)

**Operating temperature range:** -20 to 45 °C, without solar loading

**Relative humidity range:** 0 to 95% RH, non-condensing

**Operating pressure range:** 50 to 110 kPa

**Flow rate (nominal):** 0.75 liters min<sup>-1</sup>

**CO<sub>2</sub> Measurements:**

**Measurement range:** 0 to 20,000 ppm

**Accuracy:** Within 1.5% of reading

**H<sub>2</sub>O Measurements:**

**Measurement range:** 0 to 60 mmol mol<sup>-1</sup>

**Accuracy:** Better than 1.5% of reading

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