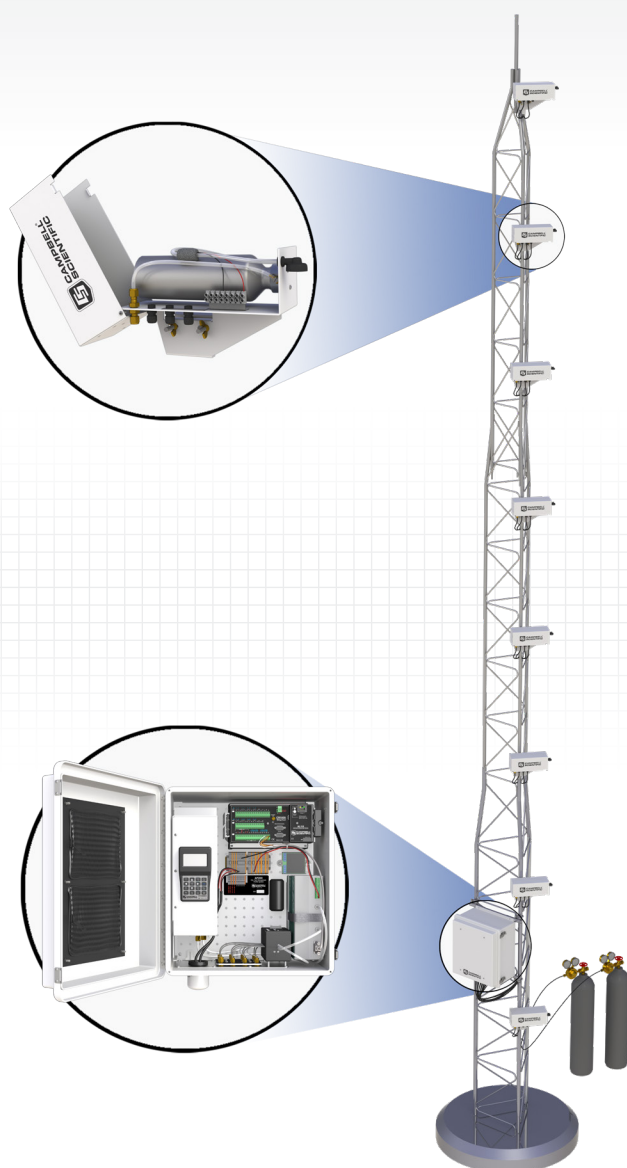


## Preprogrammed and low power Complete, Integrated System



### Measurements

#### Primary:

- CO<sub>2</sub> concentration at each intake
- H<sub>2</sub>O concentration at each intake
- System diagnostic word

#### Secondary:

- Sample flow rate
- Sample cell pressure
- Sample cell temperature
- Other control variables

## Overview

The AP200 is a complete, integrated CO<sub>2</sub> and H<sub>2</sub>O atmospheric profile system. It measures carbon dioxide (CO<sub>2</sub>) and water vapor (H<sub>2</sub>O) concentration from up to eight intakes, which are normally spaced along the height of a tower to give a vertical profile.

The AP200 is often used in conjunction with an eddy-covariance system to measure the storage term and give a more complete measure of the surface gas exchange.

## Benefits and Features

- › Provides a fully integrated system
- › Requires only 13 W (average at 25°C and 12 Vdc)
- › Contains a Campbell Scientific CR1000 Measurement and Control Datalogger
- › Automatically performs CO<sub>2</sub> span and zero
- › Automated temperature and pressure control
- › Data logger program included



## Key for Typical Installation

- 1 27693 Heated Sample Intake Assemblies (from 4 up to 8)
- 2 9922 20 AWG Power Cable
- 3 28547 AP200 System Enclosure
- 4 15702 Tubing
- 5 Zero/Span Tanks and Regulators (not included)
- 6 Instrument Tower (sold separately)

## Specifications

- View EU Declaration of Conformity documentation at: [www.campbellsci.com/ap200](http://www.campbellsci.com/ap200)

### System Enclosure

- Operating Temperature: -30° to 45°C
- Dimensions: 52.1 x 44.5 x 29.7 cm (20.5 x 17.5 x 11.7 in)

### Weight

- AP200 base model: 15.9 kg (35 lb)
- LI-850: 1 kg (2.3 lb)
- CR1000KD: 272 g (10 oz)
- CFM100/NL116: 154 g (5.4 oz)

### Power Requirements

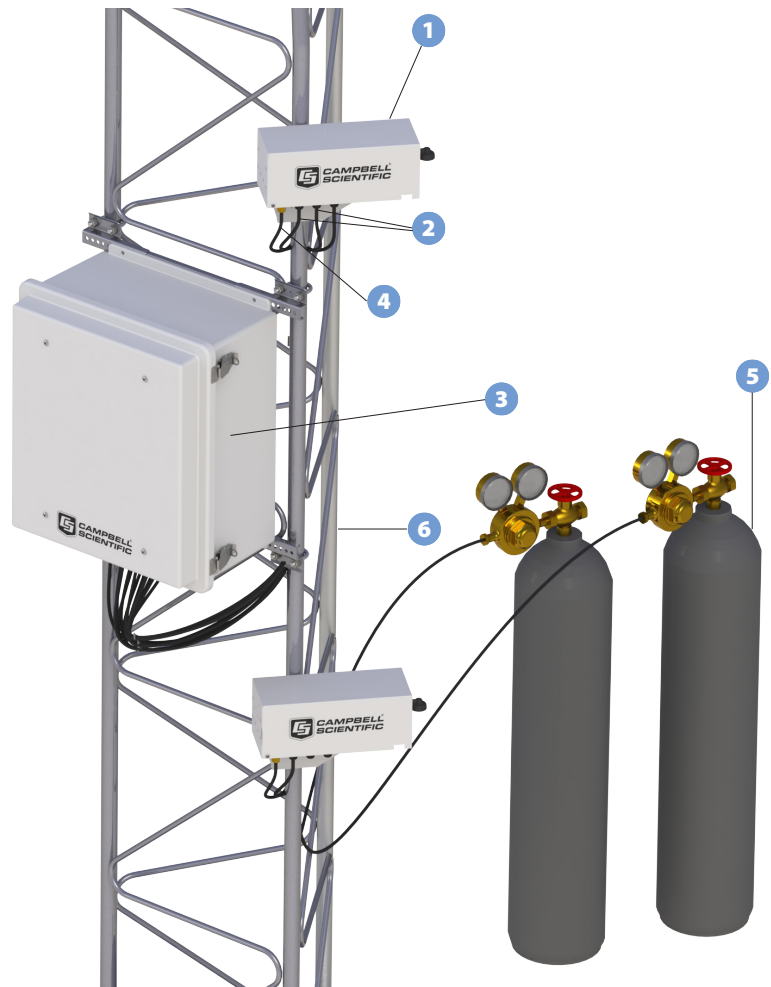
- Voltage: 10 to 16 Vdc
- Average Power (at 25°C)<sup>1</sup>: 13 W
- Maximum Power (cold startup): 3.75 A (45 W)

### Pump

- Pump type: Dual-head diaphragm pump with a brushless DC motor
- Mounting: Mounted in an insulated, temperature-controlled box inside system enclosure
- Control: Pumping speed is automatically controlled to maintain the pump inlet pressure at the set point
- Maximum Pumping Speed: 9.0 liters per minute (LPM)
- Pressure Sensor Range: 15 to 115 kPa
- Heater: 8.0 W, turns on/off at 2°C
- Warm-up time: ~50 min. from -30° to 2°C
- Fan: 0.7 W (turns on at 50°C and off at 45°C)

### Valve Manifold

- Mounting: Mounted inside system enclosure
- Inlets: Eight air sample inlets plus one inlet for zero, one inlet for CO<sub>2</sub> span, and one inlet for H<sub>2</sub>O span
- Connections: 0.25-in Swagelok®
- Mass Flow Sensor: 0 to 1.0 standard liters per minute (SLPM)
- Heater: 8.0 W, turns on/off at 5°C
- Warm-up time: ~20 min. from -30° to 4°C
- Fan: 0.7 W (turns on at 45°C and off at 43°C)



### Intake Assembly

- Dimensions: 31 x 12.5 x 19 cm (12 x 5 x 7.5 in)
- Weight: 1.4 kg (3.1 lb)
- Filter: 1.0 in diameter, sintered stainless steel disk filter, 10 micron pore size
- Orifice Inside Diameter: 0.178 mm (0.007 in)
- Orifice Heater: 2 kohms (0.07 W at 12 Vdc)
- Mixing Volume: 750 ml
- Sample Connection: 0.25 in. Swagelok

### Heater Cable Entry Seals

- Number of Connections: 3 (1 in, up to 2 out)
- Cable Diameter: 2.8 to 6.6 mm (0.11 to 0.26 in)

### Heater Cable Screw Terminals

- Wire Diameter: 26 to 12 AWG
- Wire Stripping Length: 5.0 mm (0.2 in)
- Screw Tightening Torque: 0.4 N•m

<sup>1</sup> Average power varies from 12.5 W above 35°C to 22.5 W at -30°C.