



BUCK BioAire™
Model B520

Tech Brief
T200-705

**Continuous Sampling for
Screening Airborne Aerosols**

- Small, lightweight, compact
- Accepts Allergenco-D and Air-O-Cell® Cassettes
- Battery powered, recharge or operate with standard smart charger
- Five hour* run time at 15 LPM
- Convenient timer for 1, 2, 5, 10 minute samples and Continuous Mode
- End-of-cycle audible & visual
- Easy keypad calibration without tools



*Controlled Flow Sampling Pump
for Bioaerosols*

*Depends on battery maintenance, backpressure, etc.

The *BUCK BioAire™* Model B520 Bioaerosol Sampling Pump is a compact, lightweight 5-20 LPM controlled flow sampling pump for bioaerosol sampling with Allergenco-D and *Air-O-Cell®* cassettes. The easy, full-control keypad lets you perform unattended time programmed (1, 2, 5, or 10 minute) samples, perform easy calibrations without tools, or perform manual timed sampling at the touch of a button. A group of status LEDs show the *BUCK BioAire™* Model B520 operation at a glance. Both an LED and audible alarm provide confirmation of end-of-sample or depleted battery. The *BUCK BioAire™* Model B520 Pump provides a full five hours of continuous operation (at 15 LPM) from its rechargeable NiCad batteries. It comes with a standard smart charger.

**Air-O-Cell is a trademark of Zefon International*

PRODUCT	DESCRIPTION
APB-706000	<i>BUCK BioAire™</i> Pump Model B520, complete with standard smart 120 VAC charger, instruction manual, and APB-706100 Calibration Rotameter Assy.
APB-706020	<i>BUCK BioAire™</i> Pump Model B520, complete with standard smart 230 VAC charger, instruction manual, and APB-706100 Calibration Rotameter Assy.
APB-706010	<i>BUCK BioAire™</i> Model B520 Pump only, with instruction manual
APB-604000	Standard Smart Charger, 120VAC
APB-604020	Standard Smart Charger, 230 VAC
APB-706100	Calibration Rotameter Assembly, fits onto top of bioaerosol cassette
APB-109132	Vinyl sample tubing, ½" OD, 10 ft., for remote sampling with bioaerosol cassette

7101 Presidents Dr. Suite 110, Orlando, FL. 32809
Phone: 800-330-2825 www.apbuck.com Fax: 407-851-8910



BUCK BioAire™ Model B520

**Tech Brief
T200-705**

BUCK BioAire™ Model B520 Operation

The BioAire™ Model B520 Pump provides a selectable, continuous, constant sample flowrate and is very simple to operate. No tools are required. Its quiet operation allows unobtrusive sampling in IAQ, medical, clean room, public and residential building applications.

The front key pad is organized into three functional key groups: **Power** (ON-OFF), **Timing** (1, 2, 5, 10 minute samples), and **Calibration** (Cal mode, Increase flow, Decrease flow). Positive tactile feedback is provided by the keys. The BioAire™ Model B520 Pump internal NiCad batteries provide a full five hours continuous run time at 15 LPM. The standard smart charger provides a battery recharge in 2.5 - 3 hours and allows the unit to operate on AC power.

End of sample notice is provided by the lit LED "Complete" and three short beeps.

BioAire™ Model B520 Sampling Steps

Before sampling, ensure the battery is fully charged and that the "Low Battery" LED is not on. For greatest accuracy, the BioAire™ Model B520 Pump should be calibrated once a day.

1. Place pump in desired location.
2. Immediately before sampling, lift up the label from the inlet and outlet of the cassette and attach them to the cassette sides.
3. Push the cassette (outlet side down) firmly down into the sample fitting on top of the BioAire™ Model B520 Pump until it fits snugly.
4. Push the "ON" button to power up the BioAire™ Model B520 Pump and either: (a) continue to hold the "ON" button for four seconds to put pump in "Continuous" mode, or (b) push one of the programmed time keys (1, 2, 5, or 10 minutes) for an automatic timed sample.
5. At the end of programmed sample period, pump will automatically shut off and "Complete" LED will be lit; under "Continuous" mode, push and hold "OFF" button for 2 seconds to shut off pump.
6. Pull cassette up off pump with a twisting motion and replace inlet and outlet stickers.
7. Package the cassette(s) and send to appropriate laboratory for analysis.

Specifications: Model B520

Flowrate: 5—20 LPM constant flow

Accuracy: ± 5% of set point

Run Time: 5 LPM: 20 hrs, 10 LPM: 9 hrs,
15 LPM: 5 hrs, 20 LPM: 3.5 hrs

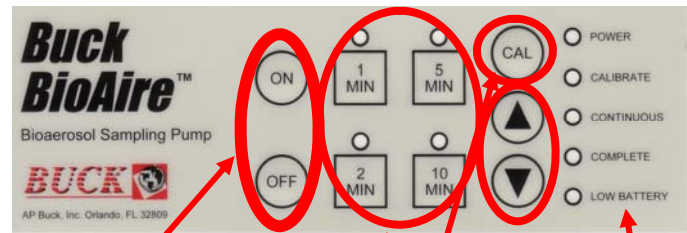
Size: 4" H x 6" W x 5¼" D
(10.2 cm H x 15.2 cm W x 13.3 cm D)

Weight: 22 oz. (624 g)

Compatibility: Accepts Allergenco-D and Air-O-Cell® Cassettes



Prices and Specifications subject to change without notice.



Power on.
Hold ON 4 sec to put BioAire™ into "Continuous" Mode. Hold OFF for 2 seconds to shut pump down

Push one of fixed sample time buttons after Power "ON"
Calibration Mode

Flow Adjust (in Cal Mode) up or down
Status LEDs confirm all pump functions

BioAire™ Model B520 Calibration

For greatest accuracy, the BioAire™ Model B520 Pump should be calibrated once per day. Calibration is performed with an actual bioaerosol cassette in-line, not a substitute flow restrictor as in other designs. The BioAire™ Model B520 Pump is a constant flow device specially designed to accommodate the natural backpressure inherent in 37mm bioaerosol cassettes. It is for use only with such bioaerosol sampling cassettes.

1. Connect the flowmeter to the inlet of the calibration fitting.
2. Remove labels or caps from bioaerosol cassette (retain for later use), push calibration fitting down onto the top of the cassette and firmly push both pieces into the sample fitting on top of BioAire™ Model B520 .
3. Push "ON", then "CAL" to put pump into calibration mode; pump will operate at last calibrated flowrate. Adjust flowrate using the ▲ and ▼ keys to set center of rotameter ball to the desired flow rate mark on rotameter. Fine adjustments are possible. Allow pump to stabilize.
4. When flowrate is achieved, push "CAL" to accept setting, then turn pump off.



BioAire™ Model B520 Pump is shown with bioaerosol cassette and APB-706100 Calibration Rotameter Assembly fitted. Adjust flowrate on key pad under CAL mode up ▲ or down ▼ until center of rotameter ball is on desired flow rate mark. All sample flow calibrations are performed with actual bioaerosol cassette in-line.

Calibration of the BioAire™ Model B520 Pump is fast and easy. The supplied calibration rotameter assembly fits securely on top of the bioaerosol cassette with no leakage, so all your sample airflow goes through the bioaerosol cassette. Flow calibration with an actual cassette in-line ensures an accurate and repeatable calibration, without substitute restrictors, bubble tubes, or other fittings.

Rev. 5.9.2018