



A.P. BUCK, INC.

Buck BioSlide™ Model B1020 Instruction Manual



10 - 20LPM Constant Flow Bioaerosol Sampling Pump For Microscope Slides

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A.P. BUCK, INC.

MAN-BIOSLIDE REV-A
12/18/2003

Manual Part No. APB-107036

NOTES:

WARRANTY

The seller warrants to the Purchaser that any equipment manufactured by it and bearing its name plate to be free from defects in material or workmanship, under proper and normal use and service, as follows: if, at any time within 1 (one) year from the date of sale, the Purchaser notifies the Seller that in his opinion, the equipment is defective, and returns the equipment to the Seller's originating factory prepaid, and the Seller's inspection finds the equipment to be defective in material or workmanship, the Seller will promptly correct it by either, at its option, repairing any defective part or material or replacing it free of charge and return shipped lowest cost transportation prepaid (if Purchaser requests premium transportation, Purchaser will be billed for transportation costs). If inspection by the Seller does not disclose any defect in material or workmanship, the Seller's regular charges will apply. This warranty shall be effective only if installation and maintenance is in accordance with our instructions and written notice of a defect is given to the Seller within such period. This warranty is exclusive and is in lieu of any other warranties, written, oral or implied; specifically without limitation, there is no warranty of merchantability or fitness for any purpose. The liability of the Seller shall be limited to the repair or the replacement of materials or parts as above set forth.

LIMITATION OF LIABILITY

The seller shall not be liable for any claim for consequential loss or damage arising or alleged to have risen from any delay in delivery, malfunction or failure of the equipment. The Seller's liability for any other loss or damage arising out of or connected with the manufacture, sale or use of the equipment sold, including damage due to negligence, shall not in any event exceed the price of the equipment supplied by us.

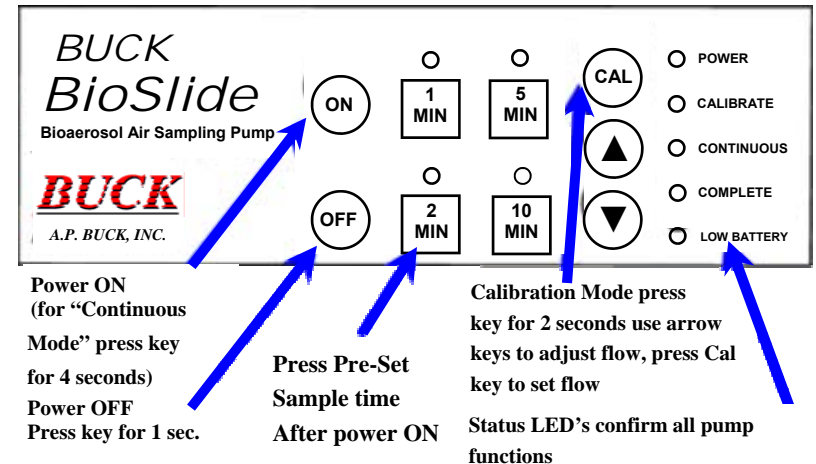
A.P. Buck, Inc. reserves the right to make changes at any time, without notice, in prices, colors, materials, specifications and models, and to discontinue models.

Seller makes no warranty for merchantability of purpose.

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BioSlide™ Quick Guide



Buck BioSlide™ is shown with the APB-706220 Calibration Rotameter. Adjust flowrate on key pad under CAL mode up ▲ or down ▼ until rotameter ball is centered on 15LPM mark. All sample flow calibrations are performed with a Buck Gel-Impaction slide installed.

Product Description

The Buck BioSlide™ Model B1020 is a bioaerosol sampling pump designed to draw air into a chamber containing a specially prepared 1 X 3 inch microscope slide (known as the BUCK Gel-Impaction Slide). The built-in impaction slit in the top door of the sampler is designed to mimic the collection technique of the spore traps such as the Buck BioAire™ Cassettes. The Gel-Impaction Slide contains the collection adhesive.

A microprocessor controls the BioSlide™ Model B1020's flow and provides preset timing routines for sample collection. The pump is capable of flow rates from 10 to 20 Liters Per Minute (LPM). The flows are adjustable from the keypad in (CAL) Calibration Mode. The calibrated flow rate will be maintained at a constant flow throughout the collection period.

Four timing routines are selectable from the keypad and continuous flow is achieved by pressing the ON key for 4 seconds. The OFF key manually stops the pump from sampling.

The pump uses nickel cadmium (NiCad) rechargeable batteries and will operate up to five hours on a fully charged pack.

The standard battery charger supplied with the pump charges the batteries in 16 hours. An optional FastOne™ (APB-601900) **One Hour** charger is available. A/C powered operation can be conducted with the supplied A/C Charger .

Product Features

- **10 - 20LPM Adjustable Constant Flow Range**
- **5 hours continuous operation at 15LPM with Buck Gel-Impaction Slide or a standard microscope slide 1" X 3" coated with stopcock grease**
- **Small and lightweight**
- **Battery powered, rechargeable with standard charger or optional FastOne™ one-hour charger**
- **Tripod Mount on bottom of unit**
- **Convenient timers for 1, 2, 5, or 10 minute samples**
- **End-of-Sample audible and visual indicators**
- **Easy keypad calibration with supplied Calibration Rotameter and sampling media in-line for greatest accuracy**

Service Information

You must obtain an RMA number prior to returning any product. Obtain your RMA number by calling **A.P. Buck, Inc. Customer Service at 1-800-330-BUCK or 407-851-8602**. To expedite service and repairs, have your Customer ID handy and visit our website, www.apbuck.com, and request an RMA# online.

Please ensure that all products returned to A.P. Buck, Inc. contain no hazardous materials. Any obviously contaminated product received will be returned to the customer. All products scheduled for service must be received within 30 days of the RMA number issuance date. Unauthorized products will be returned to the customer.

For all work not covered under warranty, A.P. Buck, Inc. will repair any instrument for the cost of parts and labor as quoted. If major components must be replaced, A.P. Buck, Inc. will notify the customer before proceeding with repairs.

When returning any instrument for service, please include a Purchase Order marked: "Repair – Cost Not To exceed \$250.00 Without Customer Authorization". Please provide the following information with your instrument:

Company Name:

Address:

Telephone:

Fax:

Contact Name:

Serial Number(s):

Date of Purchase:

Service Required or Description of Problem:

TECHNICAL SUPPORT SERVICES

Technical Assistance: Phone (407) 851-8602

Fax: (407) 851-8910

Email: apbuck@apbuck.com

Web site: www.apbuck.com

Hours:

Monday-Friday 8:00AM to 4:30 PM (EST)

Parts and Accessories

BUCK BioSlide™ Pump Model B1020, (APB-707000) complete with standard 120VAC adapter/charger, instruction manual, and APB-706220 Calibration Rotameter Assembly

BUCK BioSlide™ Pump Model B1020, (APB-707020) complete with standard 230VAC adapter/charger, instruction manual, and APB-706220 Calibration Rotameter Assembly

BUCK FastOne™ Charger, optional, 90-240VAC (APB-601900) Single Station Automatic One Hour Charger

BUCK Standard Charger, supplied, 120VAC (APB-603900) Designed to charge the BUCK BioSlide™ Pump Battery Pack (max 16 hours charge time)

BUCK Standard Charger, supplied, 230VAC (APB-603910) Designed to charge the Buck BioSlide™ Pump Battery Pack (max 16 hours charge time)

BUCK BioSlide™ Rechargeable Battery Pack 4.8VDC (APB-108104) The pack of four cells can easily be changed by opening the case and lifting the pack off the Velcro strip, unplugging the connector and installing the new pack

Calibration Rotameter Assembly (APB-706220) fits on top of BioSlide™ pump flowrate setting and pump at calibration.

Tripod for BioSlide™ support (ALO-9804-08) supports BioSlide™ for breathing zone and other elevated samples

Buck Gel-Impaction Slides (SAM-500910) a microscope slide 1 x 3 inches, box of 25

Audible Alert ON/OFF

The arrow keys will turn off the audible “beep” in areas where sound is not appropriate. With the pump power ON, press the Down Arrow Key for 4 (four) seconds or until **two** beeps acknowledge the disabling of the beeper. Press the Up Arrow Key for 4 (four) seconds or until **three** beeps signify the audible beeper is ON.

Low Battery Warning

When sampling pressing the down arrow key will light up the LED's, located on the right side of the unit, based on the battery charge. If all 5 LED light the batteries are 100%. If 4 light is 80%, 3 light =60%, etc. The low battery LED will begin flashing when there is only enough power to collect a 10 minute sample.


Sample Timing Lock-Out

Once the Red low battery warning LED stops blinking and becomes Solid Red, none of the timing keys will function and a new sampling cannot be started. At this time the pump must be recharged or plugged into the charger to continue sampling.

Tripod Mount

A female connector located on the bottom of the unit provides easy connection to most standard tripods.

Specifications

- Model: BioSlide-B1020
- Flow Range 10 to 20LPM
- Accuracy ± 5% at Set Point
- Run Time 5 hours @ 15LPM
- Size 4”H x 6”W x 5.25D
(10.2 cm H x 15.2 cm W x 13.3 cm D)
- Weight 29 oz (826 g)
- Battery Voltage 4.8VDC
(120 or 230VAC standard charger included)
- Compatibility: Buck Gel-Impaction Slides
- Recharge Time 16 hours (1 hour with optional FastOne™ 90-240VAC Charger)
- Marks 

* BioSlide and FastOne are trademarks of A.P. Buck, Inc.

Operating Instructions– Model B1020

Sampling Setup

1. Fully charge the pump to be assured of the maximum sampling time.
2. Place a Buck Gel-Impaction Slide carefully into the slide slot on the bottom section of the sampling chamber. Close the top section.
3. Turn the pump on by pressing the ON key. At this moment the BioSlide™ pump will actuate all the indicating LED lights for one second and beep twice to acknowledge the turn on. This “turn on process” provides confirmation to the operator that the indicating lights and beeper are functioning properly and that the unit has adequate battery power to operate.

Calibrate and Set Flow Rate

1. Place the Rotameter Calibrator on top of the sampling chamber as shown.
2. The CAL key, when pressed, will turn on the pump motor to approximately 15LPM with the microscope slide installed.
3. Use the Arrow Keys to move the flow rate up ▲ or down ▼ until the red ball of the Rotameter is centered at the 15LPM mark. The pump requires 10-15 seconds to stabilize after the arrow keys are pressed.
4. Once the flow is selected, press the CAL key to stop the pump and store in memory the flow rate selected. This will remain as the flow rate until the calibration is changed by pressing the CAL key and repeating Steps 1-4. The BioSlide™ Model B1020 is now ready to collect a sample.

For greatest accuracy, calibrate with each use, or at least daily. The Rotameter Calibrator is a Secondary Flow Standard and can be used anytime to verify flow rate. Note: a dedicated slide may be used to set the flow rate or verify the flow rate is correct.

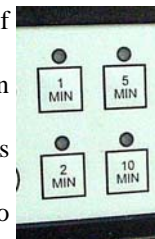


Timing Routines

Sampling

1. Place the sampling slide into the sampling chamber of the pump.
2. Turn on the pump by pressing the ON Key (the green “POWER” LED is lighted).
3. Start the sampling by pressing one of the timing keys (1, 2, 5, or 10 minutes). LED will light.

The BioSlide™ Model B1020 will automatically run to the calibrated flow for the selected time.



End of Sampling

At the conclusion of the sampling, the pump will stop. The “COMPLETE” LED will light and the timer LED will be flashing to indicate which timing routine was selected.

Auto Power Off for Battery Conservation

The BioSlide™ Model B1020 turns off 5 minutes after being turned ON if no keys have been pressed. The pump automatically turns off approximately 30 minutes after any sampling routine if no other key is pressed

Battery Charging

Wall Charger APB-603900

The standard wall charger supplied will charge the batteries in approximately 16 hours or run pump with dead battery.

FastOne™ Charger APB-601900 (Optional)



The FastOne™ Charger will charge the pump’s batteries in approximately one hour. This charger uses a “negative delta voltage” technique which provides a fully charged pack before going to a trickle mode. LED lights on the charger indicate the status of the charging.