

# Operator's Manual



## The Bullet Blender<sup>®</sup> Gold BB24-AU

### **Congratulations!**

Congratulations on your purchase of a Bullet Blender<sup>®</sup> Gold by Next Advance, Inc., for lysing, disrupting, and homogenizing your samples.

Please read this operator's manual which explains proper operation of the instrument. This manual is posted on our website, [www.nextadvance.com](http://www.nextadvance.com). Click the SUPPORT button on the left-hand menu bar and then on the appropriate link to the manual.

We're confident that your Bullet Blender will become an essential tool in your laboratory and we wish you success with your work.

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## Parts of the Bullet Blender® Gold



### SYMBOLS USED ON THE BULLET BLENDER GOLD



Start Operation



Caution: Follow the Instructions in the Operator's Manual



This product complies with European Low Voltage and EMC Directives



Please dispose the test tubes and the BBX or BBY Bullet Blender in accordance with local regulation

## SETUP

Place the Bullet Blender® Gold on a stable, level lab bench. Carry it by grasping the bottom sides. Plug the AC power supply cord connector into the AC Input Receptacle on the right side of the Bullet Blender® and then insert the plug into a wall outlet. You should see lights on the time setting flash for several seconds, indicating that the unit is receiving power. It is now set up.

## OPERATION

To use your Bullet Blender Gold, lift open the instrument cover, twist the handle of the sample plate cover counter clock-wise until the white arrow is in the unlocked position (see figure below) and lift the sample plate cover out of the instrument. Insert the sample tubes evenly spaced, re-place the sample plate cover, twist the handle clock-wise until it is in the locked position and close the instrument cover.



The figure above shows labels that indicate if the sample plate cover is in

the locked or unlocked position. Here, it is shown in the locked position.

Only 1.5 mL RINO® screw-cap tubes or Eppendorf® Safe-Lock® snap-cap tubes should be used in this instrument. In order to use these tubes, the Bullet Blender must be fitted with the appropriate gasket corresponding to the tube type. Each gasket is clearly labeled “RINO” or “Eppendorf”. The gasket is removed by unscrewing the three screws with a Phillips head screw driver and lifting the gasket off of the lid. Attach the proper gasket by aligning the holes in the gasket with the holes in the lid and inserting the screws. Make sure that the gasket is screwed on securely, or else homogenization efficiency may be affected. Only RINO® screw-cap tubes are recommended for use in the Bullet Blender outfitted with the RINO® gasket; other screw-cap tubes may break or result in sub-optimal homogenization.

For best results, the tubes should be evenly spaced. Set the duration, in minutes, and the speed to the desired value. Push the start button. As each minute passes, another LED will light up. The Bullet Blender Gold will not start until the sample plate cover is properly locked.

If you turn the “Time” knob to “0”, the instrument will stop.

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## Example:



The figure above shows the Bullet Blender Gold set to run for 4 minutes at a speed of 8, after running for 2 minutes. To operate, press the “START” button. After 15 seconds, the LED light by the number 15 will light up. After 30 seconds, the second LED light by the number 30 will light up. And so on. At the settings shown above, after 4 minutes, the Bullet Blender Gold will stop.

To use 4° C cooling, fill the dry ice cooling compartment with at least 2 lbs of dry ice. Use cryogenic gloves when handling dry ice. Do not use the inner portion of the dry ice cooling compartment to transport the ice. Do not fill the dry ice cooling compartment with water ice. Make sure that the dry ice cooling compartment lid is properly sealed. To pre-cool the instrument, after filling the compartment with dry ice, run the instrument for 5 minutes or until the “4°C” light comes on with no tubes inside.

To use Air cooling™, where ambient air is drawn into the instrument, operate the Bullet Blender Gold with the dry ice compartment

open. Air Cooling is most effective when the instrument is operated in a 4°C environment.

## PROTOCOLS AND SAMPLE SETTINGS

The following ratio should be used as a guideline for determining the amount of beads and buffer to use given a certain sample size - 1 volume/mass of tissue: 1 volume of beads : 2 volumes of buffer. For more specific information regarding the use of various beads as well as specific protocol information, please refer to our website: [www.nextadvance.com](http://www.nextadvance.com)

As the tissue amount becomes smaller, the above recommended ratio may differ due to the limitations of handling of the small volumes. We recommend using a minimum of 25 µL of buffer regardless of your sample size.

The maximum sample mass is 300 µL per microcentrifuge tube in the Bullet Blender Gold, and the tube should not be filled more than two-thirds of the way (this includes sample, beads, and buffer). The mechanics of homogenization require empty space in the tube.

Cutting the tissue into smaller pieces will generally yield better results. Tissue with a high aspect ratio (long, thin strips) will homogenize better than tissue that is round or cubic.

Do not operate the Bullet Blender® Gold using the same tubes for longer than 15 minutes.

Protocols for many types of samples are posted on our website, at

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[www.nextadvance.com/FAQs/protocols.htm](http://www.nextadvance.com/FAQs/protocols.htm).

## Notes:

At high speed settings there may be some flaking of the tubes. This is a normal side effect of homogenization. The higher speed enables homogenization of tougher tissue.

## CLEANING

If you wish to clean your Bullet Blender, clean the outside of the unit only with mild soap water and a soft cloth. Under normal conditions, the Bullet Blender Gold should never need to be disassembled for cleaning. In the case of a large spill, unplug the instrument, remove the sample tube plate with an 1/8" hex wrench, wipe out the spill using standard laboratory safety precautions, and replace the sample tube plate. **Do not touch or tamper with the electronics.**

## TROUBLESHOOTING

In addition to the tips given below, a thorough list of troubleshooting tips is at

[http://www.nextadvance.com/FAQs/FAQ\\_s-Bullet\\_Blender.htm](http://www.nextadvance.com/FAQs/FAQ_s-Bullet_Blender.htm).

**If the Bullet Blender doesn't start**, make sure the Power Switch is in the ON (I) position. Make sure that the sample plate lid is in the "locked" position. The plug of the power supply cord might not be in a live wall outlet or the power supply connector might not be fully inserted in the AC Input Receptacle of the Bullet Blender.

**If the unit stops working**, turn the system off for 15 minutes to allow the

electronics to reset. If the Bullet Blender does not turn on after this period, contact customer service.

**If the caps on the microcentrifuge tubes pop open**, make sure that the interface regions between the lids and the caps is dry when you close the caps or screw them on, so that there is enough friction for the caps to remain tight. Using recommended types of tubes will minimize tube opening.

**If the 4°C light is not coming on**, frost from condensation may be blocking the air passage. Remove the inner dry ice compartment and gently agitate it or replace the ice.

**If mist coming out of the dry ice cooling container seems excessive**, make sure that the lid of the dry ice container is closed securely.

## SUPPORT

FAQs, protocols, and other helpful information are available on our website, <http://www.nextadvance.com>. Click on the Bullet Blender, then on the appropriate link. If you cannot find an answer there, please contact customer service by email at [techsupport@nextadvance.com](mailto:techsupport@nextadvance.com) or by telephone at (518) 674-3510 or (800) 738-1681.

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## SPECIFICATIONS

Size: 35 cm (14 in.) deep x 46 cm (18 in.) wide x 38 cm (15 in.) high.

Weight: 30 lbs.

Power Requirement: 100-240 V, 50-60 Hz, 2.5-4.5 A

Capacity: 24 of 1.5 mL RINO® tubes or Eppendorf® Safe-lock® tubes.

Relative Humidity: 5 - 90% non-condensing

Operating Temperature: 4 - 40°C

Altitude: <2000m

Storage Temperature: -40 to 50°C

Meets **CE** requirements (-CE models only).

## WARRANTY

Next Advance warrants its Products against defects in materials and workmanship for time periods which vary according to the Product. Within these time periods, Next Advance will replace or repair, without charge to the original purchaser, any part which is defective.

Bullet Blender Two years

The warranty is void if the Product is defective due to product accident, product modification, exposure to radiation other than for sterilization, connection to an improper electrical supply, lack of proper maintenance, contamination, improper installation or

misuse. If the product is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired. The warranty shall also not apply to defects arising from fire, flood, lightning or other conditions unrelated to correct operation of the Product.

Next Advance's liability is limited, at the company's election, to (1) refund of the original purchaser's purchase price for the Product (2) repair of the Product, or (3) replacement of the Product or defective parts. Evidence of purchase by the original purchaser is required. Next Advance may also request documentation of proper maintenance, if applicable.

Next Advance makes no other warranty, express or implied, with respect to its Products. **NEXT ADVANCE MAKES NO WARRANTY RESPECTING THE MERCHANTABILITY OF THE PRODUCTS OR THEIR SUITABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR USE.** Next Advance shall not be liable for, indirect, special, incidental or consequential damages of any nature. Any recovery for any claim shall be limited to the original purchase price for the product.

## Operator's Responsibility

Provide proof of purchase and provide normal care and maintenance.

## WARNINGS AND CAUTIONS

Read the user's manual before operating.

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Do not carry the instrument by the dry ice compartment. Instead, lift from the bottom sides of the instrument.

Do not operate Bullet Blender® units with empty tubes.

Do not open lid or cover when the Bullet Blender is in use.

Wear cryogenic gloves when handling dry ice.

Do not use the inner container of the dry ice cooling compartment to transport ice.

Do not use regular water ice in the dry ice cooling compartment.

Do not insert fingers or objects other than recommended tubes into sample tube holes.

Use caution when closing Bullet Blender lid- do not close on fingers.

Use recommended tubes only.

No user serviceable parts are inside.

For indoor use only.

Pollution Degree 2 per EN 61010-1.

Overvoltage Category II per EN 61010-1.

Enclosure Protection: Not Protected Against the ingress of Moisture.

Sound Pressure Level: Up to 90dBA.  
Use hearing protective devices that reduce exposure to below 85 dBA during prolonged exposure.

Do not immerse in liquid.

Before touching the Bullet Blender, touch a bare metal surface to discharge static electricity.

## DISCLAIMER

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All brand and product names used in this manual are the trademarks of their respective owners.

**NEXT ADVANCE INC. DOES NOT**

**GUARANTEE THE INTEGRITY OF THE TUBES USED IN THE BULLET BLENDER. TUBES THAT ARE NOT RECOMMENDED BY THIS MANUAL MAY CRACK OR OPEN IF USED IN THE BULLET BLENDER. NEXT ADVANCE INC. OPTIMIZES THE BULLET BLENDER TO SPECIFIC TUBE TYPES AND BRANDS AND CANNOT GUARANTEE THE SAFE USE OF ALL TUBES BEING SOLD ON THE MARKET.**

### **CONTACT INFO**

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