

Operator's Manual



The Bullet Blender®

BBX24, BBX24B, BBY24M, BBY5E, and BBY5M

Congratulations!

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

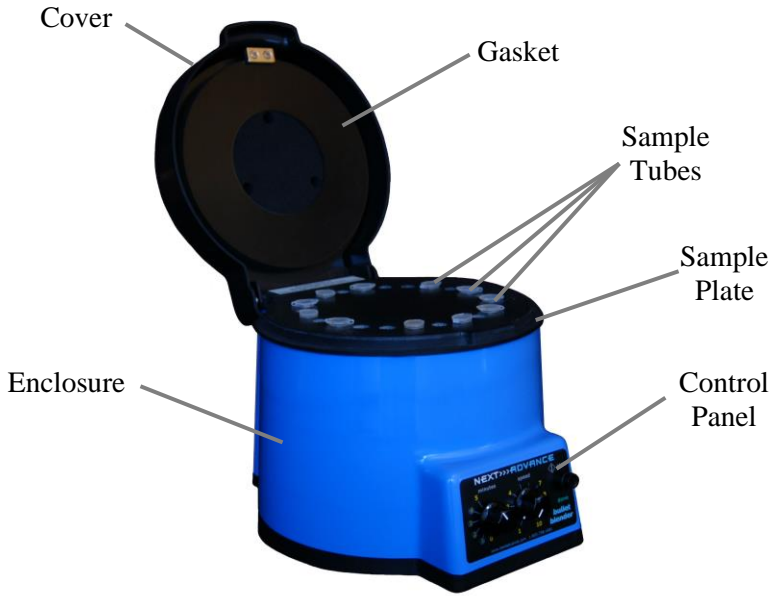
Please read this operator's manual which explains proper operation of the Standard (BBX24), the Blue (BBX24B), the Storm (BBY24M), the 5E (BBY5E), and the 5Storm (BBY5M) models. This manual is posted on our website, www.nextadvance.com. Click the SUPPORT button on the menu bar at the top of the page. Then select *Bullet Blender Support* from the drop down.

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®



SYMBOLS USED ON THE BBX AND BBY MODEL BULLET BLENDERS



Start Operation



Caution: Follow the Instructions in the Operator's Manual



Indicates European Conformity (Conformité Européenne) with health, safety, and environmental protection standards. (applies only to –CE models)



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

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SETUP

Place the Bullet Blender® on a stable, level lab bench. Carry it by grasping the bottom sides. Plug the AC/DC power adapter into the 24V socket on the back 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. Wait for the lights to stop flashing. It is now set up.

OPERATION

To begin using your BBX or BBY series Bullet Blender, lift open the cover and insert the appropriate tubes. For BBX24 models (BBX24 and BBX24B), place up to 24 closed 1.5 mL Eppendorf™ Safe-Lock™ snap-cap tubes. For the Bullet Blender Storm (BBY24M), use up to 24 Next Advance brand RINO® screw-cap tubes or 1.5 mL Eppendorf Safe-Lock snap-cap tubes. In order to use these tubes, the Bullet Blender Storm must be fitted with the appropriate gasket corresponding to the tube type. In the Blender 5E (BBY5E), load up to twelve 5 mL Eppendorf tubes. In the Bullet Blender 5Storm (BBY5M), load up to twelve 5 mL Axygen® brand screw-cap tubes.

There are 2 gaskets for the Storm model (for microcentrifuge tubes) that can be interchanged for use with the corresponding tubes. Each gasket is clearly labeled “RINO” or “Eppendorf”. Use RINO screw-cap tubes when the

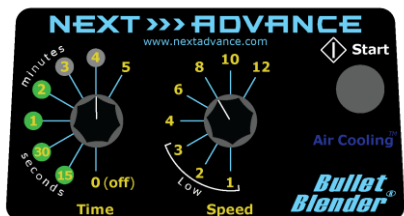
RINO gasket is installed; other screw-cap tubes may break or result in sub-optimal homogenization. Only use Eppendorf Safe-Lock snap-cap tubes when the Eppendorf gasket is installed. To change which gasket is installed in the Bullet Blender, unscrew the three screws with a Phillips head screw driver and lift 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. Do not over-tighten the screws.

When using microcentrifuge snap cap tubes and 5 mL snap cap tubes, the caps and the rims of the tubes must be dry, and the caps must be closed securely, before placing the tubes in the Bullet Blender. Likewise, when using screw cap tubes, the threads on the tubes and on the caps must be dry and the caps must be screwed on tightly.

Do not operate the Bullet Blender with the cover open. There will be excess noise, your samples will not be properly processed and the tubes may be knocked entirely out of the instrument potentially causing injury. If you need to open the cover during a run, turn the “minutes” knob to “0” and wait for the instrument to stop in a few seconds.

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Operator Panel Example:



By observing the lines on the knobs, the figure above shows the Bullet Blender is set to run for 4 minutes at a speed of 8. The lights by the time settings indicate that the Bullet Blender has run for at least 2 minutes but not 3 minutes yet. The run was started by pressing the “START” button. After 15 seconds, the LED behind the number 15 on the “Time” dial will light up. After 30 seconds, the second LED will light up, and so on. Note that the time and speed settings vary by model. At the settings shown above, after 4 minutes, the Bullet Blender will stop. In the Blue and the BBY models (Storm, 5E and 5 Storm models), the words “Air Cooling™” will light up in blue during operation and for about one half minute afterward as the fan continues to operate. In addition, the BBY models have a more powerful motor.

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 beads and protocol information, please refer to our website www.nextadvance.com.

As the tissue amount becomes smaller, the above recommended ratio may differ due to the limitations of handling small volumes. With microcentrifuge tubes, we recommend using a minimum of 25 μL of buffer. For the 5 mL tubes, we recommend a minimum volume of 100 μL . Volumes can be adjusted to meet the needs of downstream applications.

With microcentrifuge tubes, the recommended maximum sample mass is 300 mg of organ tissue or 300 μL of plant tissue or pelleted cell culture per tube. The sample, beads, and buffer combined should not be more than 1 mL. The rest of the tube needs to be empty so that the contents can be vigorously shaken in the homogenization process. For 5 mL tubes, the recommended maximum sample mass is 1 g of organ tissue or 1 mL of plant tissue or pelleted cell culture per tube. Do not operate with more than a total of 3 mL combined buffer, sample and beads per 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 using the same tubes for longer than 15

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minutes. Protocols for many types of samples are posted on our website. Note that 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 should never need to be disassembled for cleaning. In the case of a large spill, unplug the instrument, remove the sample tube plate with a 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 bbtroubleshooting.nextadvance.com.

If the Bullet Blender doesn't start, the plug of the power supply cord may not be in a live wall outlet or the power supply connector may not be fully inserted in the socket on the back 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 snap-cap tubes pop open or the caps on screw-cap tubes loosen, make sure that the interface regions or screw threads 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 cap failure.

SUPPORT

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

SPECIFICATIONS

Size: 28 cm (11 in.) deep x 23 cm (9in.) wide x 21.5 cm (8.5 in.) high.

Weight: 4 to 5 kg (8.5 to 11 lbs.), depending upon model.

Power Requirement: BBX24 and BBX24B models: 24 VDC, 0.75 Amp
BBY24M, BBY5E and BBY5M models: 24 VDC, 2.5 Amp

Capacity: 24 of 1.5 Eppendorf snap-cap tubes, 24 of 1.5 mL RINO screwcap tubes, 12 of 5 mL Eppendorf tubes or 12 of 5 mL Axygen 5 mL transport tubes,

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depending upon model.

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. The Bullet Blender warranty is two years for all models. 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.

Operator is responsible for: providing proof of purchase and providing normal care and maintenance.

WARNINGS AND CAUTIONS

Read the user's manual before operating.

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

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.

When working with hazardous or pathogenic samples, operate the Bullet Blender in a biosafety cabinet or other standard laboratory safety enclosure.

Use recommended tubes only. No user serviceable parts are inside of the instrument.

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 85 dBA for

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microcentrifuge tube models; up to 90 dBA for , 5 mL tube models.

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

Next Advance makes no other warranty, expressed 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. In no event shall Next Advance be liable for indirect, special, incidental or consequential damages of any nature. Next Advance, Inc. is not liable for any damages, including but not limited to, lost profits, lost savings, or other incidental or consequential damages arising from ownership or use of this product, or for any delay in the performance of its obligations under the warranty due to causes beyond its control. Any recovery for any claim shall be limited to the original purchase price for the product.

Next Advance, Inc. also reserves the right to make any improvements or modifications to the product described

in this manual at any time, without notice of these changes. Next Advance, Inc. products are not designed, intended, or authorized for use in applications or as system components intended to support or sustain human life, as a clinical medical device for humans, or for any application in which the failure of the product could create a situation where personal injury or death may occur.

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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.

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