

General Guidelines for the Bullet Blender™

In order to ensure your success in using our products, please read the guidelines provided here. We did the homework so you don't have to.

- 1. Order of addition is essential to good results: tissue, beads, then buffer.**
- 2. Use high quality polypropylene tubes.**
- 3. Sample preparation is important. Long aspect ratio tissues will homogenize better than those with a low aspect ratio (i.e. long and skinny is better than cube-shaped or round). Do not overload OR underload.**

<i>Product</i>	<i>Maximum Sample</i>	<i>Minimum Sample**</i>	<i>Maximum Volume</i>
Bullet Blender™ / B.B. BLUE	0.3g	0.01g	1.2 or 1.5mL*
Bullet Blender™ 5	1.0g	0.1g	3.0mL*
Bullet Blender™ 50 BLUE	3.0g	0.1g	15mL

* for 1.7 or 2.0mL tubes, respectively.

- 4. Proportions of grinding agents and buffer are relative to tissue.**
 - [Choose your beads](#) based on the toughness of the tissue. [Check our website for details.](#)
 - For **glass beads**, start with proportions of 1:1:2 (tissue:beads:buffer) when you begin optimization.
 - For **denser** beads, the tissue to buffer ratio is the same (1:2), while increasing the ratio of tissue to beads (1:1.5 up to 1:3).

**Samples smaller than the minimum recommended size may be used, however use an amount of beads and buffer as if you had the minimum sample size. With smaller samples, smaller beads often achieve the best homogenization. (conversely, larger samples usually require larger beads.) Use your best judgment, or if you would like assistance feel free to call or e-mail us.

Special Considerations for RNA isolation:

Be sure to use RNase-free beads and tubes. Tubes and beads may be purchased RNase-clean, or you may clean them yourself.

If one run is not satisfactory:

Simply run the samples again! There is no need to change the beads or tubes.

Use of the Bullet Blender with extraction or lysis kits:

Use an amount of buffer appropriate for homogenization according to the Bullet Blender protocol (2 volumes for every mass of tissue unless stated otherwise). If more buffer is required, add the remainder after the homogenization is not complete.

Special Note for the Bullet Blender 5:

Load at least three tubes in the Bullet Blender 5. Due to the larger motor, tubes may break if the unit is underloaded. Empty tubes may be used for this purpose. Also, if you run the same tubes multiple times, be sure that the caps are tightly screwed on before each additional run.