

Lab ARMOR™ Lab Armor® Bead Block™ User's Manual

Cat. No. 52100-BLK Bead Block™ – Single Black with 0.25 L Beads
Cat. No. 52100-BLU Bead Block™ – Single Blue with 0.25 L Beads
Cat. No. 52100-GLD Bead Block™ – Single Gold with 0.25 L Beads
Cat. No. 52100-RED Bead Block™ – Single, Red with 0.25 L Beads
Cat. No. 52100-SLV Bead Block™ – Single, Silver with 0.25 L Beads
Cat. No. 52200-BLK Bead Block™ – Double, Black with 0.5 L Beads
Cat. No. 52200-BLU Bead Block™ – Double, Blue with 0.5 L Beads
Cat. No. 52200-GLD Bead Block™ – Double, Gold with 0.5 L Beads
Cat. No. 52200-RED Bead Block™ – Double, Red with 0.5 L Beads
Cat. No. 52200-SLV Bead Block™ – Double, Silver with 0.5 L Beads

Related Products

Cat. No. 52120-200 DryTemp™ – Digital Dry Bath 120v
Cat. No. 52230-200 DryTemp™ – Digital Dry Bath 230v

Description

Bead Block™ by Lab Armor is an aluminum block filled with Lab Armor Beads™ designed for use with DryTemp™ digital dry bath or any standard commercially available dry bath. Bead Block™ replaces common drilled-out aluminum heat blocks and provides for optimal temperature uniformity and accuracy while incubating common lab vessels, including microfuge tubes, test tubes, and even microplates and slides. Bead Block™ eliminates the need for using different size blocks to fit different sample vessels and can be easily lifted out of the dry bath unit for portable use anywhere in the lab.

Intended Use

For research use only:



CAUTION: Hot surfaces, especially on the block, can cause serious injury or burns. Do not put water or liquids into the well as shock, serious injury and death may occur. Do not heat flammable or explosive substances as serious injury and death may occur.

Features:

- ✓ Compatible with most commercially available dry baths.
- ✓ Compatible with a broad temperature range from Ambient -80°C to 300°C.
- ✓ Transfers dry heat or cold with high efficiency to warm, thaw, chill, and incubate samples at constant temperatures.
- ✓ Accepts and supports any shape vessel, including, tubes, plates, dishes, and other non-water-tight vessels.
- ✓ Anodized aluminum chamber for chemical resistance and ease of cleaning; disinfects easily.

Tips and Hints

- ✓ Keep dry of liquids during use to avoid damaging bead performance.
- ✓ Wash clean of any spills with soap and water; *completely dry* beads before returning to the dry bath.
- ✓ If necessary, disinfect beads periodically with 70% ethanol solution; spray lightly then stir into the Beads.
- ✓ Avoid using strong acids, bases, including bleach solutions, and detergents, which can tarnish the Beads.
- ✓ Always use gloves when handling beads to avoid contaminating the bath.
- ✓ Beads have been shown to perform for a minimum of 2 years from date of manufacture when using good laboratory practices. If beads become dull with misuse or do not perform as intended, it is recommended to replace the beads.

Warranty

Bead Block™ comes with a 2-year warranty.

Notifications

The trademarks mentioned herein are the property of Lab Armor, LLC.

Lab Armor® Beads are patent pending.

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Specifications

Operating Temp. Range:	Ambient -8 to 200°C
Single Block Dim. (WxDxH)	3 x 3.75 x 3 in / 7.6 x 9.5 x 7.6 cm
Single Block Volume	0.25 L
Double Block Dim. (WxDxH)	6 x 3.75 x 3 in / 15.2 x 9.5 x 7.6 cm
Double Block Volume	.50 L
Unit Chamber:	Fast Heating Aluminum
Chamber Dim. (WxDxH)	3.25 x 5.5 x 2.5 in (8.4 x 14 x 6.4 cm)
Warranty:	2 Years

Set up and Operation

Use the following procedures to set up your Bead Block™ system.

Calibrating the Dry bath

Most digital dry bath units have a user calibration feature, which allows users to fine adjust the dry bath display to match certified lab reference thermometers or reference temperature sensing meters. Adjusting unit calibration should only be attempted using certified thermometers or temperature sensors with accuracy certificates.

Follow your manufacturer's written protocol for calibrating your dry bath unit after removing the original solid aluminum heat block and inserting the Bead Block. For DryTemp™ units, use the following procedure to calibrate the dry bath (note – DryTemp™ is pre-calibrated at the factory for use with Bead Block™):

1. The unit must be turned off. Press and hold down the **Mode** button. While holding down the **Mode** button, turn the unit on using the power switch at the back.
2. The display will step through the digits and then show the current temperature setting with the right hand digit flashing. Release the **Mode** button after the right hand digit begins flashing.
3. Set the temperature to the desired calibration temperature using the **Up** and **Down** buttons.
4. Press and release the **Mode** button. The unit will start heating to the set calibration temperature.
5. Allow 45 minutes for DryTemp™ to equilibrate at the set calibration temperature. The right hand digit will begin flashing again when the dry bath has equilibrated at the calibration temperature.
6. After the display begins flashing, use a **certified** reference thermometer or temperature sensor to check the Bead Block™ or sample temperature. Insert the thermometer into the Beads about 3 to 5 cm. If the reference thermometer shows a difference from the display, you can adjust the display to match the thermometer by using the **Up** and **Down** buttons.
7. After using the reference thermometer and adjusting the display if necessary, press the **Mode** button to exit the calibration mode. DryTemp™ will then be calibrated to the reference thermometer at the selected temperature point and ready for operation.

Bead Block™ Use

Use the following procedures to optimize the use of your Bead Block™.

Optimization and Validation for Specific Applications

Although Bead Block™ is a suitable alternative to solid aluminum heat blocks, in general, it is best practice to always verify and validate new laboratory equipment for compatibility with current protocols. The goal is to reproduce the conditions of the original experiment performed in a standard dry bath. For most applications, optimization is not required. But, in order to determine if bath optimization or protocol adjustments are necessary for a given application, first compare performance with both a solid aluminum heat block and Bead Block™. Once a protocol is validated, in order to ensure reproducibility, always keep the established conditions constant between experiments for a given application.

Bury Vessels in Beads to Avoid Condensation

When using a solid aluminum heat block, vessels have an internal temperature gradient since only a portion of the vessel is recessed into the block and the remaining is exposed to room temperature. This often produces condensation under the lid of a vessel, which can alter the concentration of the sample. In a Bead Block™, the following can be performed to eliminate condensation under the lid:

1. Incubate vessels at an angle and bury or completely submerged the vessel into Lab Armor™ Beads.
2. *Keep the Bead Block™ covered* to achieve maximum temperature range and to maintain optimal temperature uniformity.

Technical Support

For additional product and technical information, such as product manuals or technical articles on the use of Bead Block™ and Lab Armor™ Beads for common laboratory applications, please visit our website at www.labarmor.com. For further assistance, please email our Technical Support team at www.info@labarmor.com.