

# LyobeadPRO™

## Bench-top lyobead generator for mid-sized production of precise lyobeads with R&D capabilities.



### Key features and advantages:

- **Bench-Top Device:**  
Being a small bench-top device, the LyobeadPRO™ is space-efficient and can be easily integrated into laboratory settings inside or outside an environmental cabinet.
- **High-Quality Bead Production:**  
The LyobeadPRO™ is designed to produce lyobeads with precise volume and shape. This is crucial in applications where consistency and accuracy are paramount, such as in the biopharmaceutical industry.
- **Fine Dosing Control:**  
The device offers finely adjustable controls for dosing materials, ensuring that each bead is created with the same amount of material. This level of dosing control is essential for maintaining repeatability from one bead to another.
- **Snap Freezing Mechanism:**  
The LyobeadPRO™ uses a controlled segmented rotating dewar of liquid nitrogen to ensure snap freezing at the correct drop height and avoids clumping of beads within the liquid nitrogen.
- **Versatility:**  
The device is ideal for both research and development (R&D) purposes and upscale for production use. This versatility makes it suitable for a wide range of applications, from initial product formulation testing to mid-scale production.
- **Accurate Bead Size Adjustment:**  
The device allows for accurate adjustment of bead size, which is essential in applications where bead size matters, such as in diagnostics and biopharmaceutical research.
- **Repeatability and Consistency:**  
The high repeatability of exact volumes of liquid ensures that each bead receives a consistent and accurate amount of material. This is crucial for both production and R&D projects where consistency and replicability are paramount.



Figure 1: LyobeadPRO™ device



Figure 2: Built in pump and adjustment controls.  
Volume precision 0.10%



Figure 3: The design uses either a single nozzle or dual nozzles provides the output required per batch. Different size beads could be produced utilising dual nozzles of different sizes. Decontamination priming protocol. Generate up to 4000 beads/hr.

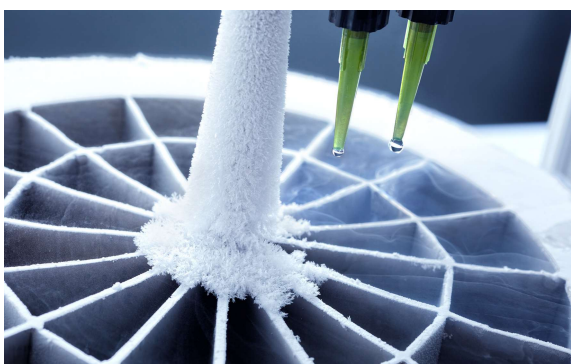


Figure 4: The rotating head located inside the dewar allows for segregation of beads to avoid aggregation. Each nozzle is directly above the sections within the dewar.

## Why lyobeads?

Lyobeads, or freeze-dried beads, are gaining popularity in the diagnostics industry. One of the primary advantages of lyobeads is their flexibility in formulation. They allow for the development of a single formulation that can be easily adjusted for various applications, even in different container types. This versatility can significantly reduce research and development (R&D) investment, making lyobeads an attractive option for diagnostic companies.

## Benefits of Lyobeads

### Convenient Single-Dose Format

- Ensure precise dosage and enzyme concentration Optimal Reconstitution with large surface area

### Easily Scalable

- One freeze dryer can produce tens of thousands of beads
- Bulk Storage before Packaging for Efficiency

### Pick and Place

- Flexibility on containment
- Seamless Handling of Complex Buffer/Lyobead Combinations in Cartridges

### Research & development

- Ideally suited for swift product adaptations with reduced R&D costs.

## Product specification

Dimensions:	<b>LyobeadPRO</b>	<b>67.2 x 36.5cm</b>
	<b>lvek controller</b>	<b>21 x 29.2 x 14.6cm</b>

### Declaration of conformity:

EMC:	EN61326-1:2013 / Basic Electromagnetic Environment:
Safety:	EN61010-1:2010 with AI:2016/C:2019
RoHS:	EN63000:2018

## Performance specification

Viscosity (P)	Bead volumes	CV%	Single tip -droplets/hr	Dual tip -droplets/hr
Low		0.53		
Medium	2µL to 50µL	1.73	2,000	4,000
High		1.99		

For details of your local distributor please contact us at: [www.biopharmagroupcdmo.com](http://www.biopharmagroupcdmo.com)