

# I need a freeze dryer!

A basic guide to freeze dryers from Biopharma Group

Does your process need the following?

Are you interested in precision control and monitoring for formulation and process development?

No

Yes

**Benchtop BTP**



Do you require controlled ice nucleation technology, built-in intelligent recipe design (SMART) or advanced moisture determination methods i.e. TDLAS

No

Yes

**Lyostar**



Do you need the system to fit onto a benchtop?

Benchtop

Floor-standing

No

**Benchtop Advantage**



**Genesis or Ultra**



Does your process demand GMP compliance:

- CIP/SIP
- 21 CFR Part II
- integration in to aseptic processing line
- automated loading/ unloading systems

Yes

No

Is your batch size greater than 30 litres?

Yes

**FD Series or GP Dryer**



**Benchmark**



Cleanroom versions also available for benchtop, pilot and production machines.

Contact us on +44 (0) 1962 841092 to discuss your freeze drying needs with the experts further

## About these systems

### Benchtop BTP

BTP freeze dryers are compact benchtop systems with vacuum control capability that encompass a range of labprocessing requirements. Available in range of models & accesoris to suit specific application needs .

### Benchtop AdVantage

AdVantage is a series of benchtop freeze dryers capable of multi freezing and drying steps, ideal for small-scale freeze drying applications and R&D. Silicon fluid shelves enable precise and repeatable shelf temperature control, capable of simulating conditions on a larger pilot/production systems.

### Genesis and Ultra

Unequalled for design and capabilities, the Genesis is the most versatile freeze dryer for pilot, research or small scale production applications. Its compact design has over 100 configurations and its range of accessories makes it easy to adapt for multiple freeze drying challenges.

Ultra freeze dryers are based on the popular Genesis model, but with superior shelf and condenser capacity. This makes it ideal for pilot or small-scale production work, but it can easily handle R&D tasks, if need be.

### Lyostar

The Lyostar is designed to streamline freeze drying process development. SMART Freeze Dryer Technology is a breakthrough tool that can return safe, optimised cycles in a drastically reduced timeframe. Controlyo technology enables control of ice nucleation which can be used to create structures favourable to freeze drying and safer for the product. Compatible with a number of contemporary moisture determination technologies, such as TDLAS.

### GP Dryer

The GP range are large-scale, general-purpose freeze dryers that are suitable for applications in food processing, pilot research plant, dairy products and document recovery. They are known for quality construction, simple operation and assured performance.

### Benchmark

Benchmark systems are custom built to meet the most demanding of requirements from clients and regulatory bodies in pilot to production freeze drying. Benchmark features Allen Bradley PLC control, with options including, but not limited to:

- clean-in-place and steam-in-place
- 21 CRF compliant
- critical systems redundancy
- connection with automated loading/unloading system
- full processing lines

### Service and Support

All these freeze dryers are fully supported within the UK and Ireland by BPS' dedicated service department. Installation is offered as standard and a range of qualification options are also available depending on your requirements.

### Our Freeze Drying Laboratory

We operate a freeze drying laboratory on-site ,which can offer services in product and process development and pilot-scale production. The laboratory features Genesis and Ultra systems which are available to view by appointment.

