

NEWSLETTER

April, 2026



Freeze Drying Supports Stable Products, Better Storage, and Process Control

Freeze drying helps laboratories and production teams **remove moisture under vacuum at low temperature** so products can **stay stable, dry, and easier to store or transport**. This matters across pharmaceutical, biotech, food, research, and specialty material workflows where heat-sensitive samples can lose quality under conventional drying methods.

That is why Qualitest offers a **focused range of Freeze Dryer systems** designed to help teams build repeatable cycles, support scale-up, improve traceability, and match the platform to the workflow. **Six core systems** under the Freeze Dryer category will be highlighted, covering routine lab use, higher-throughput drying, in-situ electric heating, food processing, flask-based research, and GMP-oriented production environments.

Basic Benchtop Freeze Dryer

QualiFD™ B Series

Feature/Advantages:

- Compact benchtop Freeze Dryer platform for routine laboratory use.
- Integrated design helps reduce setup complexity on common lab benches.
- Stainless steel cold trap and work surface support cleaning and daily lab use.
- Built-in pre-freeze approach supports many workflows without relying on a separate low-temperature freezer.
- Embedded touchscreen provides real-time monitoring of key operating curves.
- Suitable for medicine, pharma, research, chemistry, and food-related lab applications.



Typical Applications :

- Routine freeze-drying for laboratory samples.
- Early-stage processes work in pharmaceutical and research environments.
- Chemistry and food-related sample preparation requiring low-temperature drying.



QualiTrivia💡

Freeze drying **does not remove water** by turning ice into liquid first. **It removes water by sublimation**, where ice changes directly into vapor under reduced pressure.

That is one reason freeze drying is widely used for heat-sensitive products that need better structure retention, controlled moisture reduction, and longer storage stability.

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Large Capacity Freeze Dryer

QualiFD™ L Series

Feature/Advantages:

- Floor-standing Freeze Dryer built for higher-throughput lyophilization.
- Integrated design with expandable drying area up to 0.27 m².
- Stainless steel cold trap and work surface support routine cleaning and corrosion resistance.
- Pre-freeze capability supports many workflows without a separate low-temperature freezer.
- Touchscreen records and displays cold trap temperature, sample temperature, and vacuum curves for traceable runs.
- Caster wheels support movement between work areas in shared laboratory.



Typical Applications :

- Labs that need larger daily batch capacity.
- Multi-user or shared facilities with changing workflow needs.
- Pharmaceutical, biological, chemistry, and food labs scaling beyond benchtop drying.

Precision Electric Heating Freeze Dryer

QualiFD™ PEH Series

Feature/Advantages:

- In-situ Electric Heating Freeze Dryer built to automate freezing, sublimation, and drying in one chamber.
- Shelf heating and programmable control support repeatable cycle development.
- The transparent acrylic chamber door allows visual observation during the full drying process.
- PID shelf temperature control helps reduce shelf-to-shelf temperature differences.
- Multi-segment recipe programming supports cycle flexibility and repeatable operation.



Typical Applications :

- Process development requires controlled shelf heating.
- Labs that want to reduce sample handling steps.
- Workflows that need repeatable programmed drying cycles and better observation during operation.



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Food Freeze Dryer

QualiFFD™ Series

Feature/Advantages:

- Designed to remove water from food under vacuum at low temperature.
- Helps keep product shape, color, and aroma while improving shelf stability.
- Uses controlled freezing, vacuum, sublimation, condenser capture, and secondary drying to support storage stability.



Typical Applications :

- Fruits and vegetables such as berries, mango, corn, peas, and mixed blends.
- Ready meals and ingredients including rice, pasta, soups, sauces, and diced components.
- Meat, seafood, and pet food applications where low-temperature drying and rehydration performance matter.

Workshop GMP Freeze Dryer

QualiWFD™ Series

Feature/Advantages:

- GMP-focused Freeze Dryer for workshop-scale production and controlled environments.
- Cleanable product-contact surfaces and smooth internal finishes support hygiene-focused operation.
- Tight sealing design helps reduce leakage and contamination risk.
- Documentation-ready controls align with validation-oriented workflows.



Typical Applications :

- GMP workshop and cleanroom production workflows.
- Production teams that need stronger contamination control and documentation support.

Flask Freeze Dryer

QualiFD™ F Series

Feature/Advantages:

- Specialized Freeze Dryer Machine for flask-based lyophilization using a hanging-bottle T-frame.
- Supports quick connection and removal of multiple flasks during active runs.
- Useful for mixed sample sets without shutting down the system.
- Low-temperature cold trap rated to $\leq -85^{\circ}\text{C}$, with an option down to $\leq -110^{\circ}\text{C}$ no-load.



Typical Applications :

- Biomedicine and peptide workflows.
- Synthesis samples and freeze-drying studies with varied flask configurations.
- Long-term strain preservation and other vacuum-sensitive lab workflows.

Why Choose Qualitest for Freeze Dryer Systems

- Complete Freeze Dryer lineup from benchtop lab units to production-scale platforms.
- Options for routine lab drying, mobile use, electric-heating control, food processing, flask-based research, and GMP workshop production.
- Supports a cleaner path from R&D and cycle development to larger-scale production.
- Recipe control, data logging, and process monitoring help improve repeatability and traceability.
- Service, training, and spare-parts planning are available to support long-term uptime.

Ready to improve drying consistency, storage stability, and scale-up confidence?

Qualitest's Freeze Dryer lineup is built to help laboratories and production teams choose the right system for sample type, throughput, hygiene requirements, and process control needs. Explore WorldofTest's Freeze Dryer lineup for reliable lyophilization solutions—built for laboratory research, process development, food applications, and GMP-oriented production: <https://www.worldoftest.com/freeze-dryers/>

For expert guidance on selecting the right configuration for your sample type, batch size, and workflow, please contact: sales@qualitest-inc.com

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