

BioArc Ultra -80°C Automated Sample Storage System

Revolutionary High-Density, Energy Efficient
Automated Sample Storage



AZENTA
LIFE SCIENCES

Powering the Future OF SUSTAINABLE AUTOMATED SAMPLE STORAGE

BioArc Ultra High Density -80°C Automated Sample Storage System

Designed to address the growing need for large-scale storage across diverse sample formats, the BioArc™ Ultra redefines -80°C automated storage systems, putting energy efficiency and sustainability at the forefront.

The BioArc Ultra offers unrivaled sample storage density, an eco-conscious refrigeration system that delivers substantial energy savings, and precision sample retrieval capabilities. As a space- and energy-saving alternative to manual freezer farms, the Ultra delivers unmatched efficiency with reduced labor requirements and lower running costs.

From large-scale sample storage/warehousing to biobanking, biological and vaccine research, manufacturing, and clinical applications, the BioArc Ultra stands ready to meet the diverse needs of today's dynamic scientific landscape and cold chain logistics.

Features and Benefits

- **Storage Density:** Maximize capacity with the market's highest storage density.
- **Eco-Friendly System:** Zero Global Warming Potential (GWP) and zero Ozone Depletion Potential (ODP) safeguard samples and the environment.
- **Energy Savings:** Achieve sustainable, cost-effective operations with significant energy reductions.
- **Labware Flexibility:** Work with samples stored in a wide range of labware including tubes, vials, bottles, syringes, plates, racks, cryoboxes, and more.
- **Precision Retrieval:** Effortlessly retrieve your precious samples quickly while consistently managing temperature control.
- **GxP Validation:** Supports compliance with GxP standards.



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GLOBAL WARMING
POTENTIAL (GWP)

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OZONE DEPLETION
POTENTIAL (ODP)



79%

LOWER TEWI

Ultra delivers a Total Equivalent Warming Impact (TEWI) that is up to 79% less than the equivalent number of manual freezers.

Maximize Efficiency, Reduce Footprint

More Samples

Stores up to 16.92M 0.9mL tubes

Safeguard a vast array of samples in a single system with unparalleled capacity.

Less Energy

Uses up to 77% less power than the equivalent manual freezers

Advanced technology minimizes energy consumption, delivering substantial savings while reducing your carbon footprint.

Optimized Space

Requires up to 73% less floor space than equivalent manual freezers

The sleek design maximizes efficiency, allowing you to optimize your workspace for groundbreaking research and innovations.

Designed for Large-Scale Sample Storage

The BioArc Ultra is purposefully engineered to excel in large-scale sample storage environments. Our sample management experts will design the store to meet the requirements of your workflow, while also considering the growth of your sample collection and future processing needs. The store can be customized to increase throughput with the following options:

STORAGE DENSITY

Boasting the highest storage density on the market, BioArc Ultra maximizes your storage capacity like never before.



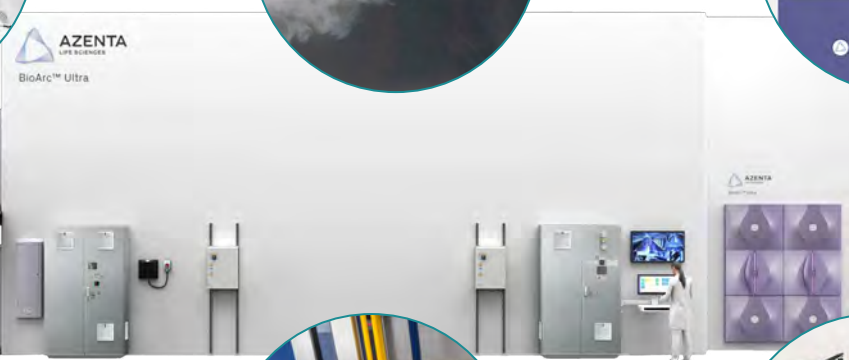
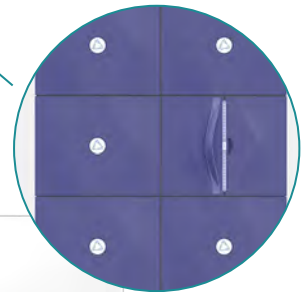
ECO-FRIENDLY REFRIGERATION

The cooling system utilizes R729, a natural refrigerant from clean air that eliminates ozone impact. It complies effortlessly with environmental regulations, offering a cutting-edge, sustainable cooling solution.



UP TO 10 PICKING STATIONS

The option of up to 10 picking stations provides the flexibility to increase throughput and/or labware types.



The Strata Store Controller Software provides tracking and reporting for labware inventory that is stored in the system. It is a powerful multi-layered application with an easy-to-use interface that provides metrics and performance data for the system. APIs are also available to connect with external LIMS systems.

STRATA STORE CONTROLLER SOFTWARE



Directly connect the storage system to an external workcell or interface with an AMR (Autonomous Mobile Robot) through the Automation Interface Module (AIM).

AUTOMATION INTERFACE MODULE



The system effortlessly handles diverse labware types, including tubes, vials, bottles, syringes, plates, racks, cryoboxes, and more. Its adaptable design facilitates efficient storage, retrieval, and seamless integration into various lab workflows.

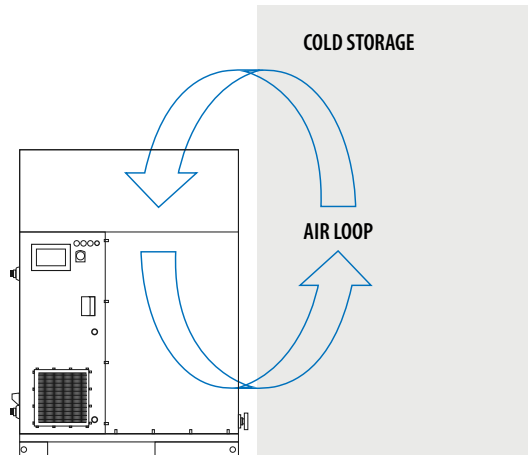
LABWARE FLEXIBILITY

Revolutionary New Eco-Friendly Cooling System

The unique, environmentally sustainable cooling system of the BioArc Ultra uses natural air rather than manufactured, ozone-depleting refrigerants. Air is heated during compression and cooled through a series of heat exchangers and then expanded to reach ultra-low temperatures.

While repeating the cycle of compression, cooling and expansion, the refrigeration system can achieve temperatures down to -160 °C. It's an eco-friendly option that also reduces energy consumption significantly.

The "secret ingredient" of the system is R729, a natural refrigerant derived from the atmosphere, and found in clean air. With zero Ozone Depletion Potential (ODP) and zero Global Warming Potential (GWP), it doesn't impact the ozone layer or contribute to climate change.

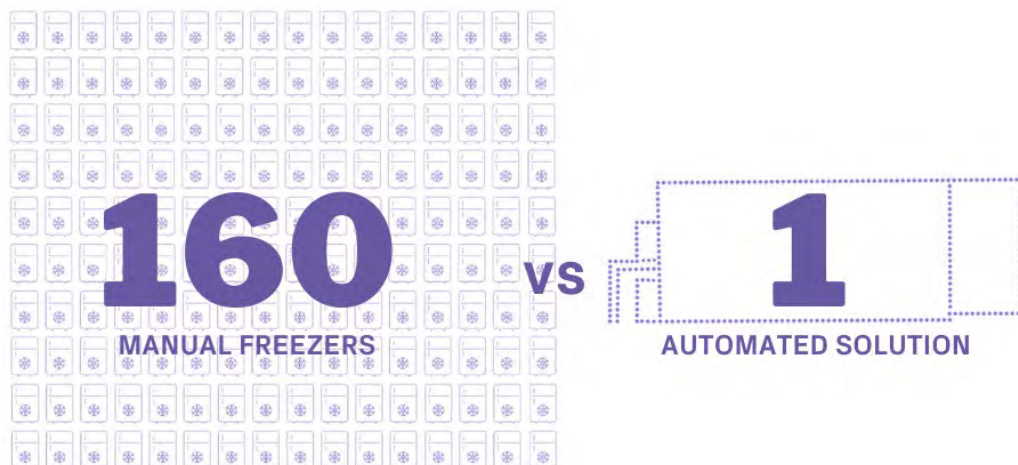


Using Air as a Refrigerant

- As a component of natural air, R729 sidesteps many of the stringent environmental regulations that apply to synthetic refrigerants, simplifying compliance for facilities.
- It eliminates the potential complications associated with lubricating oils, ensuring seamless, trouble-free operation (and doesn't require refilling).
- R729 exhibits superior efficiency even at ultra-low temperatures, critical for the BioArc Ultra's -80°C operation.
- Perhaps most impressively, being a naturally occurring air component, R729 is readily available. This not only contributes to sustainability goals but also results in significant cost savings for the operation of the BioArc Ultra.



Reduce Floor Space Footprint by up to 73%



Temperature Consistency During Picking

The robotic picking modules ensure that samples are kept at the designated storage temperature from -20°C to -80°C throughout the entire picking procedure, safeguarding sample viability and integrity. By meticulously managing temperature control, the picking modules prioritize sample preservation and minimize any potential impact on sample quality and data integrity.



Labware Flexibility

The BioArc Ultra accommodates a wide range of sample types with precision and ease. Its versatile design caters to tubes, vials, bottles, syringes, plates, racks, cryoboxes, and more providing a comprehensive solution for diverse storage needs in biological research, clinical applications, and biobanking. This adaptability empowers researchers and technicians to efficiently store and retrieve various labware formats, ensuring seamless integration into existing workflows and compatibility with different experimental protocols.

With the BioArc Ultra, users have the confidence that their valuable samples, regardless of their form, are stored securely and conveniently at -80°C, safeguarding their integrity and viability for future analysis.



Ultra Storage Capacities	
Azenta Acoustic Tube	Over 43,000,000
0.9mL Tube	Over 16,000,000
1.9mL Vial	Over 5,000,000
7.6mL Vial	Over 2,000,000
2" Cryobox	Over 50,000

Strata Next Generation Store Controller Software

The Azenta Strata™ Store Controller Software is the high-performance engine that drives the sample management process in the Azenta SampleStore and BioArc automated storage systems. Strata makes automated storage easy and convenient to use — no special engineering expertise is required to operate the system. Strata’s reliability and flexibility ensure that your samples will be efficiently processed and securely protected.

The simplified user interface is easily configured for day-to-day operation, plus greater detail is available for “super users” via drill-down and advanced screens. The software simplifies integration with corporate IT systems and LIMS that support web services and other technologies. It ensures reliable performance via intelligent diagnostics and error recovery. With Strata, your staff can focus on the science rather than contending with disparate sample collection management systems.

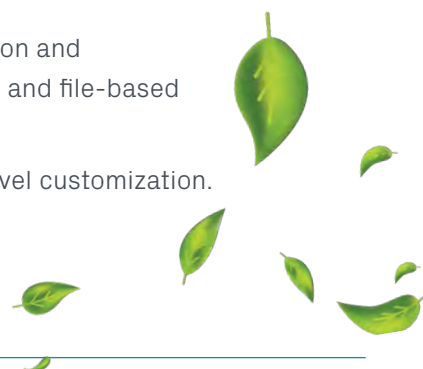


REMOTE ACCESS

Strata is accessible from any location using a laptop, tablet, or web-enabled device.

Key Features

- **Sample security:** Conducts lifetime inventory and environmental tracking while compiling sample chain of custody and audit trail reports.
- **High performance and reliability:** Provides full order control, including drag-and-drop order prioritization. Optimizes throughput with more efficient batch workflows and order decomposition.
- **Easy to use:** Intuitive, information-rich display with modern graphics permits operations with zero special training. Customizable screens permit application specific workflow presentations.
- **Seamless IT integration:** Flexible deployment options include active directory integration and encrypted system access passwords. LIMS options include web services API, database, and file-based integration. Accessibility is highly configurable with definable user roles.
- **Configurable:** Creation of users and roles, gadget and access customization, system level customization.
- **Compliance:** Strata supports 21 CFR Part 11 compliance.



Enhancement Packages

Strata software enhancement packages are designed to improve workflows, provide access to advanced features, and improve management of biosamples and stored compounds. Packages include:

- 1** THROUGHPUT & WORKFLOW ENHANCEMENT
- 2** ADVANCED JOB MANAGEMENT
- 3** STORAGE OPTIMIZATION
- 4** BIOSTORE SAMPLE MANAGEMENT
- 5** COMPLIANCE

Connect Remotely with Limfinity Biobanking LIMS



As your needs expand, connect BioArc Ultra to a broader biobanking system using the Azenta Limfinity® Biobanking LIMS system with cloud-hosting. One of the standout features of the Limfinity system is the seamless integration it provides with the Strata™ Store Controller Software, giving you full control over sample management through a centralized informatics solution.

Limfinity acts as a central hub for real-time communication, data synchronization, and streamlined sample management, with flexibility and configurability to adapt to your biobanking needs and scale up across multiple locations. This powerful combination creates comprehensive and integrated biobanking solutions, enhancing efficiency and data accuracy while ensuring compliance with industry standards and regulations. [Learn more](#)

TRY THE SAVINGS CALCULATOR

Find out how much space, energy, and money you could save. Just answer a few questions, such as your average floor space costs, number of samples stored, types of labware, freezer space used, and labor costs to find out how much you can reduce your carbon footprint and improve efficiency.

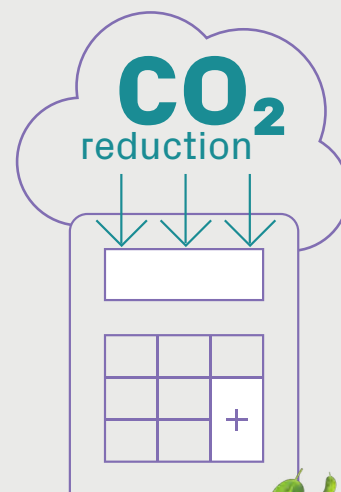
How much might you reduce your power consumption?

What labor savings might you gain?

How much floor space could you save?

How many more samples might you be able to store?

Find out the answer to these questions and more.



Choose BioArc Ultra for Sustainable Sample Storage

Move your sample storage toward a sustainable future by choosing an efficient, reliable automated sample storage system that is built for scalability. Trust the most reliable automated system on the market to deliver efficiencies that save time, improve your workflows, and keep your samples safe.

Contact us today to learn more about BioArc Ultra and how it can transform your sample storage operations.



Try the Savings Calculator

