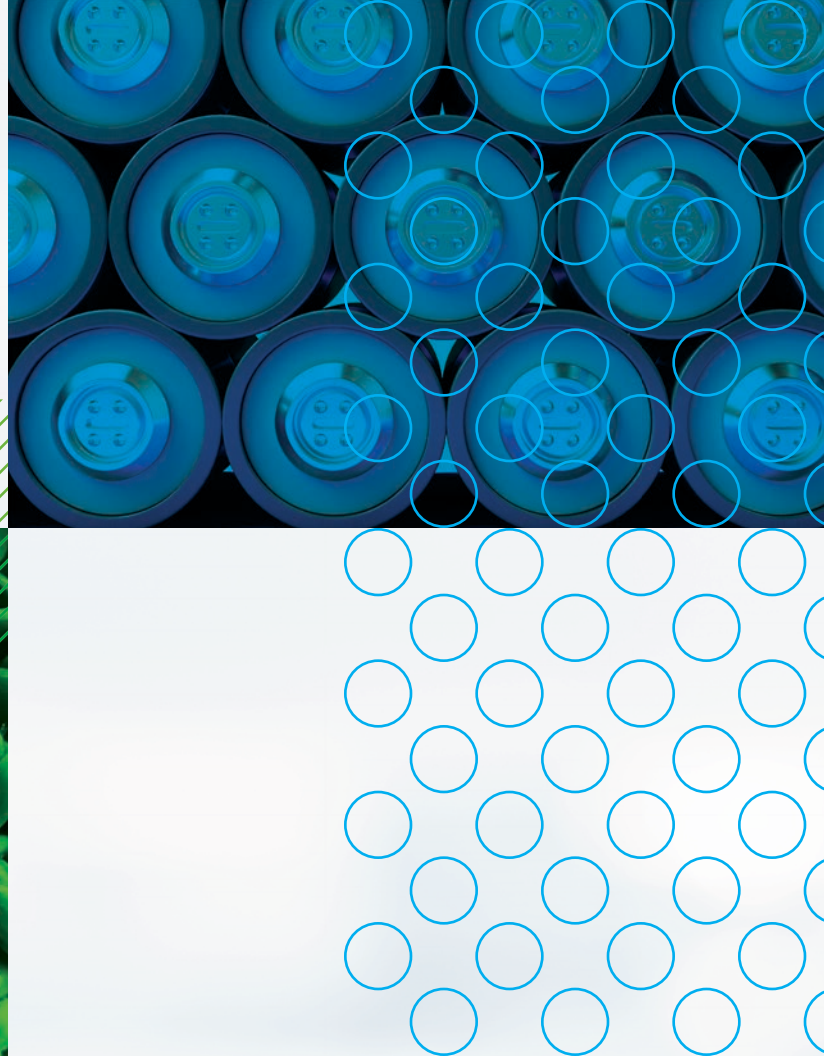
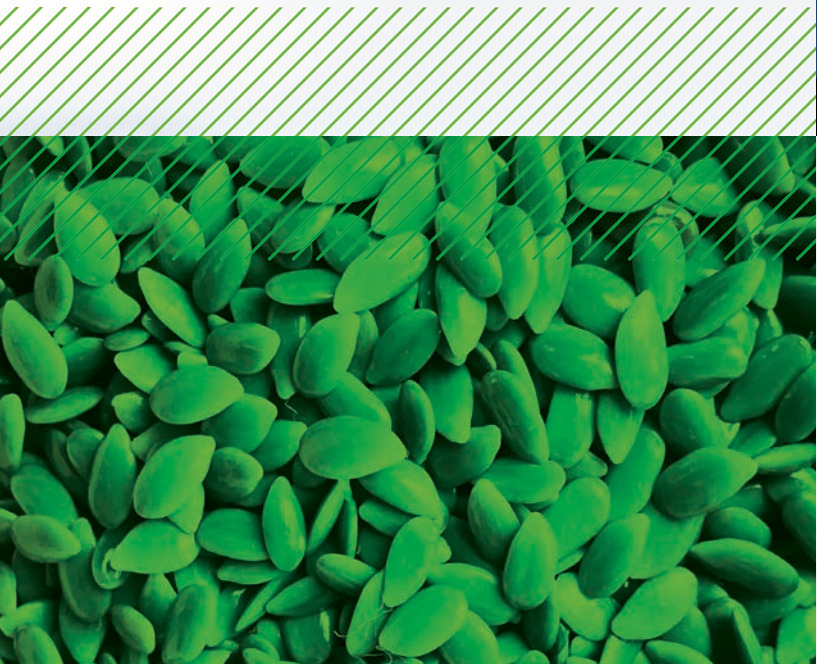



Bahnson  
Environmental  
Specialties

**Infinitely  
Precise.  
Ultimately  
Reliable.**





Our environmental rooms are expertly designed to satisfy some of the most stringent, precise conditions necessary to support a wide array of storage, testing, and manufacturing applications.

**We are committed to providing our customers with the performance and reliability they need to recognize an ongoing return on their investment.**

#### **VOLUMETRIC UNIFORMITY FOR PERFORMANCE THAT GOES BEYOND CONTROL**

When assessing the performance of an environmental room, it is crucial to consider factors beyond temperature control and to take into account uniformity and repeatability.

All chambers are designed to reach certain temperatures or relative humidity (RH) set points, and most chambers specify control accuracy. However, few chambers are designed to achieve airflow patterns and volumetric uniformity, a measure that indicates identical conditions across every inch of storage space.

Bahnsen environmental rooms deliver precise volumetric uniformity, with measurable temperature and RH uniformities down to  $\pm 0.3^{\circ}\text{C}$  and  $\pm 2$  percent.

#### **SIMPLIFY MAINTENANCE BY ELIMINATING DEFROST AND MOLD GROWTH**

Frost build-up in critical storage freezers wreaks havoc on inventory, production planning, and maintenance schedules. During the defrost process sensitive products are often put at serious risk.

At BES, we design rooms to eliminate frost. Our chambers are capable of removing moisture from air circulation via refrigeration and desiccant dehumidification – without sacrificing temperature uniformity.

For additional protection, we never place sensors in glycol, which can mask temperature spikes.

#### **PEACE-OF-MIND WITH FAIL-SAFE SYSTEM REDUNDANCY**

Environmental chambers deal with highly sensitive products, which is why 100-percent mechanical redundancy of systems is essential.

Bahnsen rooms are not only equipped with fully redundant mechanical systems, but certain rooms can also be supplied by a third-tier back-up system to avoid any interruption in protection.

#### **CONFIGURABLE CHAMBERS TO MEET SPECIALIZED APPLICATIONS**

Environmental chambers are used for a wide variety of applications, some of which require creative solutions.

We have decades of experience designing and building custom walk-in chambers for a range of unique clients. Our team of professional engineers thrive on projects that require a special touch.



For nearly 50 years, **Bahnson Environmental Specialties (BES)** has designed, manufactured, installed, and serviced a diverse line of high-performance controlled environmental chambers. Our line of cutting-edge reach-in chambers and highly advanced walk-in rooms are finely crafted to satisfy the most stringent, precise conditions for a wide array of research, development, and manufacturing applications. **We offer clients a single-source solution, stretching from pre-sales support and design, to installation, validation, and maintenance.**



### INDUSTRY-LEADING WALK-IN ROOMS

We have earned recognition in the industry for our trend-setting environmental rooms thanks to their outstanding performance and cutting-edge technology.

Our walk-in rooms are versatile enough to simulate a variety of temperature and humidity conditions suited for testing, controlled storage, or laboratory applications.

### Our range of room specifications:

- Ultra-Low:** -70°C to -80°C
- Cold/Freezer:** -50°C to +10°C
- Warm:** +10°C to +70°C
- Cleanroom:** Class 100 to 100,000 at -20°C to +40°C
- Stability:** Temperature uniformity and multiple relative humidity (RH) setpoints between 3% and 95%
- Dry:** Relative humidity (RH) to <2%



### REACH-IN AND UPRIGHT CHAMBERS DESIGNED FOR PRECISION AND CONTROL

Our ES2000 line of reach-in chambers is designed for durability and high performance. With key features including volumetric temperature and humidity uniformity, mechanical redundancy, a range of size variations, and decades-long lifespan, these industry-leading chambers are built for applications where failure is not an option.

### Features and specifications of the ES200 line include:

- Internal dimensions of 12, 33.8, 74.2, and 114.8 cubic feet
- Temperature range of -30°C to +70°C
- Temperature uniformity as low as  $\pm 0.3^{\circ}\text{C}$
- 10- to 96-percent relative humidity (RH) range

**Special options:** Photostability, CO<sub>2</sub>, Dessicant drier, Explosion safe, Air tower, Clean room applications



### SINGLE-SOURCE VALIDATION AND SUPPORT SERVICES

In addition to building excellent products, we take pride in our ability to support our customers through the entire lifecycle of their environmental chambers.

### Our factory-trained installation and service teams provide:

- Start up
- Validation/Mapping
- Calibration
- Predictive/Preventative maintenance
- Repair
- Retrofit

From research and manufacturing to pharmaceuticals and semi-conductors, Bahnson Environmental Specialties (BES) understands the critical nature of your products. **Our reputation is built on an obsessive level of chamber design, construction, performance, reliability, and quality.** Our approach to engineering exceeds even the most rigid requirements.

#### IF YOU DO THIS:

##### **Pharmaceuticals**

- Stability Testing
- Manufacturing
- Egg Chilling/Incubation

##### **BioTech**

- Process Labs
- Tissue Culture
- Plant Growth
- Bio-Pesticide

##### **Medical Research/ Devices**

- ISO 5, 6, 7, 8
- Stress Testing
- Laminar Flow

##### **Academic/Hospitals**

- Insect Rearing
- Storage

##### **Archival Vaults**

- Art and Paintings
- Photo/Film
- Sculpture Curation

##### **Battery/Semi-Conductor**

- Component Storage
- Dry Manufacturing

##### **Explosion Resistant**

- NEC Class I Div 2

#### YOU NEED THESE:

##### **WALK-IN ROOMS**

- Ultra-Low Temp Suites
- Cold/Freezer Rooms
- Warm Rooms
- Stability Rooms
- Clean Rooms
- Dry Rooms
- Archival Storage Rooms

##### **REACH-IN ROOMS**

- Stability Chambers
- Photostability Chambers
- Ultra-Low Temp Chambers
- Cold Storage
- Warm/Incubator
- Clean Room Pass-Thru
- CO2 Chambers
- Explosion Safe Chambers
- Low Humidity Chambers





**Bahnson**

Environmental Specialties

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**Infinitely  
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