Caelis
Transformer l'essai

Monoblock climatic chambers with 600 L, 1300 L, and 2000 L

What is a monoblock climatic chamber?

A monoblock climatic chamber is a compact device that consolidates the **entire climate control system** into a single unit, incorporating cooling, heating, humidification, ventilation, and regulation.

Unlike industrial climatic chambers, it does not require complex technical installation or a large external unit.

It is generally installed directly **within a laboratory or technical facility.**

It facilitates the **replication of controlled temperature and humidity conditions within an enclosed environment,** without requiring a complex industrial configuration.

Caelis: Tailored climatic control designed to fulfill your requirements.

CAELIS, **a French company specializing in design and manufacturing**, ensures safety in the most demanding climatic conditions. We provide high-precision solutions **to leading firms in the pharmaceutical and industrial sectors**, guaranteeing **comprehensive control of temperature and humidity.** Whether in the testing, qualification, or production phases, we transform your technical constraints into **sustainable performance.**

Why choose Caelis climatic chamber ?

In pharmaceutical and regulated environments, a climatic chamber transcends its function as mere technical equipment.
It is an essential tool for **ensuring the reliability of stability studies and compliance with development programs.**
At Caelis, we create customized climatic chambers **to meet the needs of the pharmaceutical, biotechnology, and regulated environment industries.**

Climate control adjusted for stability research.

Pharmaceutical stability studies require **exceptionally stable and reproducible environmental conditions.**
Caelis climatic chambers have been designed to ensure:

- **Outstanding thermal stability over time.**
- **A consistent climate throughout the usable volume,**
- **An optimized airflow distribution that reduces variations among different measurement points.**

This regulation of climatic conditions ensures the **stability** of the studies and prevents deviations that could compromise a development program**.**

1

Equipment designed for uninterrupted operation.

2

Stability programs may span several months or even years. As a result, the climatic chamber must **operate continuously and reliably.**
Caelis equipment has been designed for:

- **It operates continuously, 24 hours a day, 7 days a week.**
- **Ensuring the continuous evaluation of long-term programs,**
- **Mitigate the risks associated with alterations or deviations in climatic conditions.**

The robustness of the components and the design of the systems ensure reliable performance over time.

Caelis: Tailored climate control designed to fulfill your requirements.

3

Specialized knowledge in the pharmaceutical industry.

Caelis climatic chambers are designed to meet the requirements of controlled environments.

Our solutions are executed within the framework of:

- Stability studies performed in **compliance with ICH guidelines,**
- **GMP/GLP** configurations
- Laboratories that adhere to **FDA standards.**

The equipment has been designed **to improve qualification and validation processes,** which encompass:

- **QI / QO / QP**
- **Climate maps**
- **Regulatory validation efforts**

A customized project strategy for each application.

Each laboratory and testing program has its own distinct limitations.

At Caelis, we do not simply provide standard equipment; we create customized **solutions that correspond to the unique context of each client,** particularly taking into account:

4

- **Test volumes**
- **Fundamental climatic conditions**
- **Installation constraints**
- **Regulatory requirements.**

This methodology **ensures that each climatic chamber is optimally aligned with its intended application.**

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A partner throughout the entire duration of the equipment's lifecycle.

In addition to providing the equipment, Caelis offers support to its customers throughout **the entire life cycle of their climatic chambers:**

- **Installation and initial configuration**
- **Qualification and validation.**
- **Preventive and corrective maintenance.**
- **Assistance technique.**

This methodology **ensures continuous testing and the sustained reliability** of the facilities.

“Sleep peacefully, your stability studies are safe.”

Our Monoblock series: 600 liters / 1300 liters / 2000 liters

In alignment with CAELIS' fundamental principles, our engineers have focused their efforts on the most essential aspects: **stability and homogeneity.**

Adjustable volume: Varying from **600 to 2000 liters** to effectively match your testing capabilities.

Extended ranges: Temperatures ranging from **-15°C to +55°C** and humidity levels between **10% and 95%RH.**

Extreme precision: Exceptional homogeneity that can reach **+/-2°C** and **+/-5%RH** depending on the designs and conditions.

Considering that our equipment is seamlessly integrated into the **daily** operations of your laboratories and production areas, we have carefully evaluated every detail to improve the experience for your users:

Intuitive interface: a touchscreen positioned at an ergonomic height, enabling rapid and seamless setup.

Connectivity: Direct data transmission to your building management system (BMS).

Comprehensive security: A cohesive alarm system incorporating both auditory and visual elements, guaranteeing an immediate response when required.

Our Monoblock series: 600 liters / 1300 liters / 2000 liters

Do your research projects require specific light cycles? Our monoblock climatic chambers **feature a sophisticated light** management system, converting them into genuine phytotronic chambers ideal for plant cultivation, entomology, or photostability testing.

Our monoblock climatic chamber can be outfitted with various supplementary options. **Our specialists are available** to assess your requirements and guide you in choosing the CAELIS monoblock climatic chamber that best aligns with your needs.

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Under what circumstances would it be appropriate to employ a monoblock climatic chamber?

Case No. 1: Research and Development Laboratories

Research teams must **verify the stability of new molecules or formulations**. Sample volume is often **limited**, yet environmental conditions must **be carefully regulated.**

Specific illustration:

A pharmaceutical laboratory is currently engaged in the development of a new drug and necessitates an evaluation of its stability in:

- 25 °C / 60% RH for a period of twenty-four months
- 40 °C / 75% RH for a period of six months

The samples are preserved in separate containers of 600 or 1300 liters.

Case No. 2: Assessment of Regulatory Stability

Manufacturers must retain samples for several years to comply with regulatory requirements.

Specific illustration:

A laboratory manufactures a pharmaceutical and is obligated to retain samples of each batch for a period of 3 to 5 years. These samples are preserved in distinct climatic chambers that simulate the conditions outlined by the ICH.

Case No. 3: Stability tests for cosmetic products

Cosmetic products must be tested to ensure their stability under different climatic conditions.

Specific illustration:

A cream manufacturer wants to verify the long-term stability of its formulations.
The samples are placed in a climatic chamber set at:
37°C
50°C / 50% RH
These tests allow observation of the product's evolution (texture, color, odor) and validation of its shelf life.

Case No. 4: Reliability testing of electronic components

Companies that create logistiElectronic components must be tested under different climatic conditions to ensure their reliability.

Specific illustration:

An electronic circuit board manufacturer wants to verify the behavior of its products in hot and humid environments.
The tests are conducted in a climatic chamber at:
30°C / 90% RH
60°C dry
These tests allow for the detection of design flaws or performance deviations.

Modular climate control units.

A **modular climatic chamber** is utilized when:

- **The volumes allocated for analysis are considerably larger.**
- **The products are stored on pallets.**
- **The tests require the concurrent assessment of numerous products, potentially reaching into the hundreds.**

Specific example:
A pharmaceutical laboratory necessitates the storage of several thousand samples for a global stability study.
In this case, a dressing room with a volume between 30 and 100 m³ is employed.
The operators are permitted entry into the room to oversee the products.

What differentiates a monoblock system from a modular system?		
Pregnant	**Monoblock**	**Modular**
Volume	From 600 to 2,000 liters.	From 10 to more than 100 m³
Installation	remarkably simple	production facility
Utility	Research and development or stability evaluation	Abundant storage capacity

Which option should I select?

A **monoblock climatic chamber** is generally the most suitable option when:

- The quantity of trials is restricted.
- The assessments are carried out in the laboratory.
- The studies focus on research and development as well as batch stability.

A **modular climatic chamber** system proves beneficial in the following scenarios:

- The sample volumes are considerable.
- The products must be stored on pallets.
- Stability programs relate to industrial production.

Our affiliated services

Manufacturing

Manufactured in France: All our climatic chambers are carefully designed and crafted in France, ensuring quality and expertise.

Customized solutions: each proposal is designed to address your unique needs.

Sustainable performance: outstanding stability and reduced energy consumption for maximum efficiency.

Multi-brand maintenance

Preventive: comprehensive inspection (refrigeration, electrical, mechanical, hydraulic, safety) • replacement of deteriorated components • replacement of consumables (according to client agreement) • significant work within the budget.

Curative: Customer service callback within eight hours • Intervention within 24 to 72 hours in France • Remote troubleshooting option available.

Contract: prioritized intervention • document reductions • lowered rates.

Metrology

Metrology: stable and precise instruments that ensure reliable measurements over a broad temperature range (from -80 °C to +400 °C).

Location / Event

Equipment: a reliable climate control system, carefully maintained and customized to meet your testing needs.
Climatic chamber rental: economical, pre-purchase assessment, maintenance included.
Sale of refurbished units: economical, readily accessible, 3-month warranty, expert assistance.

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