Climats

Expert in environnemental simulation



EXCAL3: Environmental Chamber with Test Bench Integration Ports

This solution is primarily intended for materials research laboratories, building technology centers, and cement and concrete manufacturers seeking to optimize their formulations. The targeted sector is **construction and civil engineering materials,** with a strong focus on the **physico-mechanical characterization of cementitious materials.** The products tested are mainly cement and concrete, whose **hardness and elasticity** are measured using techniques such as **nanoindentation**. The purpose of the chamber is to **maintain highly stable temperature and humidity conditions** to ensure the reliability of the tests and prevent any alteration of the samples during testing.

Thanks to the option of integrating **an anti-vibration table with its air piston system**, the chamber offers **exceptional stability during testing**, enabling **precise and reproducible results**. The **"pause" function**, which disables ventilation and vibration, combined with the **glove ports**, allows for **sample changes without opening the chamber,** thereby preserving internal conditions and **speeding up handling.** The test bench is directly connected to Spirale using the communication protocol, so functions such as start, stop, pause, and temperature and humidity control are directly managed by the client's bench.

Spirale Vision

This chamber benefits from the **Spirale Vision** control offering a high regulation quality.
You would also appreciate the programming and archiving features this control system is known for. Spirale, already established in more than 6,000 environmental test chambers and test benches in the world, is the most intuitive and versatile human-machine interface on the market.

October 2025_Caractéristiques modifiables sans préavis. Description non contractuelle

www.climats-tec.com

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TECHNICAL FEATURES

CHARACTERISTICS

- **Temperature range**: 0°C to –40°C
- **Volume**: 540 L
- **Stability**: ±0.1°C to ±0.3°C
- **Uniformity**: ±0.4°C to ±1.5°C

DIMENSIONS

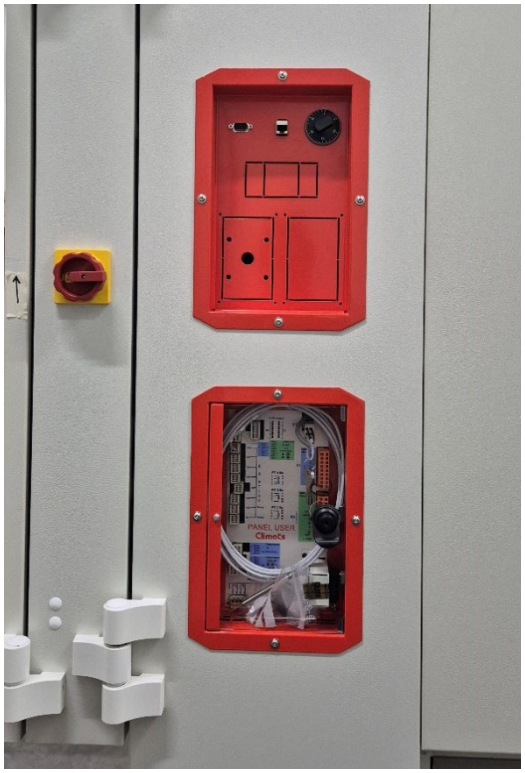
Dimensions (mm)	Width	Depth	Height
Useful	700	850	900
Overall	979	2156	2064

OPTIONS

- **Four 80 mm diameter ports** designed for integrating the test bench, with a dedicated setup allowing floor installation of the integrator's bench to minimize vibration transmission from the machine.
- **One glove port** integrated into the door to facilitate internal handling.
- **Shelf support** positioned only in the upper part of the chamber to remain outside the active testing zone.
- **Nitrogen gas injection** to eliminate any residual moisture in dry mode.
- **Product sensor** enabling measurements as close as possible to the tested samples.







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