Climats

Expert in environnemental simulation

Modular Chamber (MC) – 31 m³
Heat Pump (HP) Testing

This climate chamber is designed for higher education institutions and research laboratories to reproduce precise thermal and humidity-controlled environments. It is used by students at the University of Mons for practical lab work, as well as by research and teaching staff for a wide range of research projects. These projects are supported by Europe and the Wallonia-Brussels Federation (FWB) (Energy Platform of FWB Universities) as part of the NextGen Europe program, and by Wallonia and Europe (ILES project) within the framework of the Just Transition Fund. This funding enables the university to provide its community with a high-quality scientific tool. This modular chamber is designed to perform temperature and humidity tests on heat pumps.

Its large volume, over 30 m³, has been designed to ensure excellent measurement stability. The reference standards for heat pumps, NF EN 14511-3 and NF EN 14825, make it possible to assess the stability and homogeneity of multiple temperature and humidity conditions.

The chamber relies on soundproofed fan motors combined with a mixing grid and adjustable deflectors, delivering perfectly straightened airflow. The result is outstanding climate uniformity, even during heavily instrumented tests.

The chamber is also equipped with an air extraction system featuring motorized dampers, as well as a dedicated platform for the heat pump with built-in condensate drainage. This ensures efficient, reliable, and fully controlled air and humidity management.

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.

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NextGenerationEU
FÉDÉRATION WALLONIE-BRUXELLES
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Wallonie
LE FONDS EUROPÉEN DE DÉVELOPPEMENT RÉGIONAL ET LA WALLONIE INVESTISSENT DANS VOTRE AVENIR

www.climats-tec.com
Technopole Bordeaux Montesquieu - 2/4 allée Jacques Latrille - CS50067 - 33650 Martillac-France
Tél : +33(0) 5 56 20 25 25
email : sales@climats-tec.com

TECHNICAL FEATURES

CHARACTERISTICS

- Airflow system specifically designed for the integration and operation of heat pumps
- System tailored for characterization test campaigns requiring precise measurements within the heat pump airflow system

Temperature and humidity control under the following operating conditions (heat pump in operation)

Dry temperature	-7°C	+2°C	+7°C	+12°C	+15°C	+15°C
Humid temperature	-8°C	+1°C	+6°C	+11°C	+14,5°C	+6,6°C

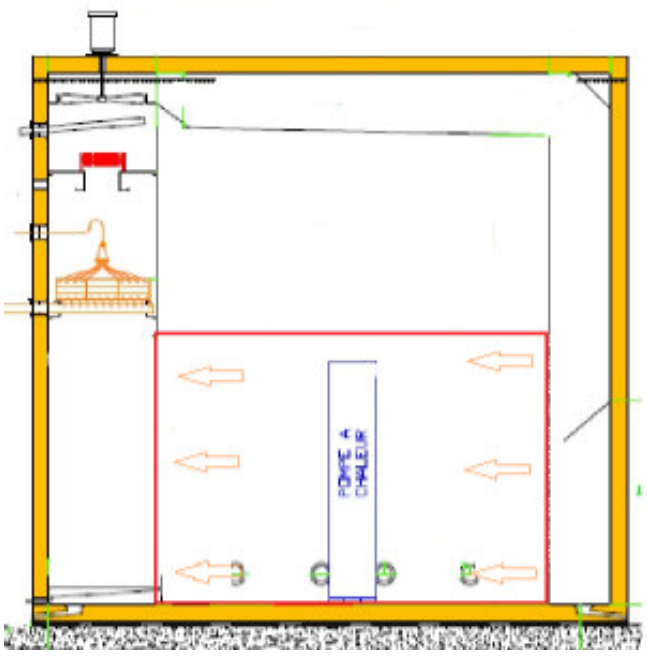
- Temperature pull-down from +20°C to -15°C within a maximum of 3 hours (heat pump off)
- Heat pump defrosting capacity: 7 kW at -7°C (defrost mode)
- Cooling capacity at the heat pump evaporator: 13 kW at -7°C (heating mode)
- Heating capacity at the heat pump condenser: 11 kW at +35°C (cooling mode)
- Heat pump airflow rate: approximately 7,500 m^3/h max

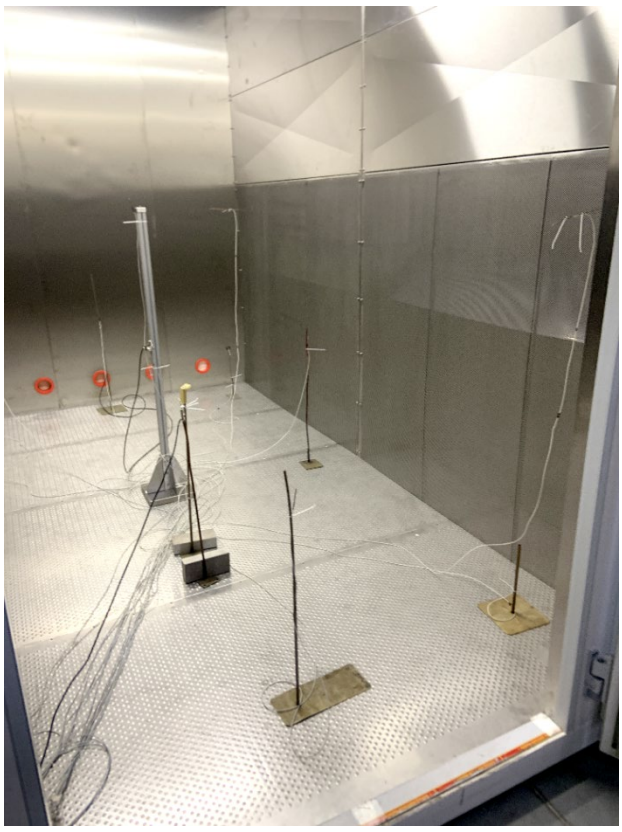
DIMENSIONS

Dimensions (mm)	Width	Depth	Height
Useful	2500	4100	3000
Overall	3800	4500	4012

PERFORMANCES

Defined volume (red rectangle)
Airflow direction (orange arrows)





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