WINCAL

SOLID WALK-IN CHAMBER

ENVIRONMENTAL SIMULATION

Spirale 3

ENERGY SAVING

Climats
a schunk company

WINCAL
SOLID WALK-IN CHAMBER

It is flexible and adapts to all your needs. Widen your possibilities...

Choose your Hot -Cold or Hot-Cold-humidity chamber from (as an option) and a relative humidity rate of +10% to +98%!


Aeronautics


Automotive


On-board electronics


Renewable energy

Take advantage of our expertise and flexibility to carry out your tests.

The Large Volume line with rigid structures designed and built by Climats is the result of over 40 years of know-how in climatic environmental simulation.

Present in sectors as diverse as automotive, aeronautics, space, test laboratories, defence and telecommunications, Climats helps guarantee the best level of performance, reliability and safety for your products.

options: notch on the front face and extra side portholes

WINCAL adapts to all types of climatic test over a temperature range of -80°C to +200°C (as an option) and reaches very high levels of performance compared to modular panels chambers.

Furthermore, the standard line proposes **5 test volumes from 2m³ to 16m³**. Test volumes can also be customised and extend up to 70m³ (on prior request).

Climats is the only manufacturer to offer such a vast range of test volumes combined with exceptional performances.

Another advantage of the WINCAL line is that your very large chambers can be designed in several parts (so-called "annular" assembly), making them easy to transport and very quick to assemble on site.

An additional benefit is that all the chambers are fitted with trolleys for full mobility and a heated viewing window on the door makes it easier to observe your tested products.

As for the technical compartment that groups together different components, it can be confined in a sound insulated and possibly air conditioned machine room. The latter is either separate from the chamber (offset machine room) or built it. The Research & Development engineers have defined a design based on a stainless steel cabinet with mineral wool insulation limiting thermal losses, and therefore the energy footprint, to a minimum.. The welded cabinet is perfectly leak-tight to prevent all risk of moisture infiltrating the insulation. The aeraulic system has a very high mixing rate generating a maximum exchange with the products and an excellent temperature homogeneity. The calorie exchange with the working volume is carried out using copper/copper heat exchangers giving a high yield combined with high ventilation. The regulation temperature sensor and

amongst standard test volumes from 2 m³ to 16 m³ with an extended temperature range of -80°C to +200°C

the product temperature sensor are used to regulate the temperature as finely as possible, even close to the product.

As for moisture production, it is provided by a powerful steam humidification system. Measurements are taken using a highly reliable and accurate capacitative sensor.

In addition, our WINCAL chamber design is compliant with the cold, dry heat, temperature variation, damp heat, climatic cycles and other international test standards.

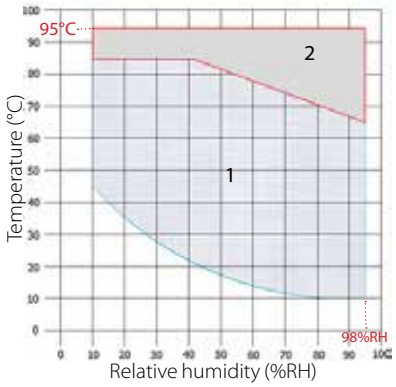
Make using large volume chambers easier by choosing from our many options:

Amongst them, cut-out wall portholes depending on your needs: rectangular or circular, in addition to the standard options. Another option is the possibility of fitting a hollowed out floor to house your handling trolleys.

You can also fit the chamber with an air extractor, either to extract possible degassing before opening the door, or to reduce the energy consumption when dropping back down to room temperature. Also possible in the case of tests on very large specimens such as a whole vehicle, fresh air intakes and the rejection of exhaust can be taken into account by our SPIRALE 3 control system.

Find out about the other available options on page 6.

Climograph



1: Modular panel chamber (CM)

2: Climats large volume rigid structure chamber extension

1+2: WINCAL Climats

Save energy

ENERGY SAVING®

The Energy Saving mode in the Spirale 3 control is unique on the market and allows to strictly control your energy costs. A saving of at least 40% can be made on the electrical consumption of your typical cycles.
The resulting reduced water consumption for the cooling system also constitutes a new environmental breakthrough.

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Select from the 5 standard test volumes: 2 m³, 4 m³, 8 m³, 12 m³ and 16 m³ ; Benefit from easy loading for your voluminous test elements while

Technical data 2 m³ & 4 m³	units	WINCAL 2001-T/HE	WINCAL 2002-T/HE	WINCAL 2003-T/HE	WINCAL 2004-T/HE	WINCAL 4001-T/HE	WINCAL 4002-T/HE	WINCAL 4003-T/HE	WINCAL 4004-T/HE
Test volume (m³)	m³	2				4			
Function		Hot Cold / Hot Cold Humid							
Test dimensions									
Width Depth Height	mm	1000 1000 2000				1000 2000 2000			
Temperature range	°C	-40 to +180	-70 to +180	-40 to +180	-70 to +180	-40 to +180	-70 to +180	-40 to +180	-70 to +180
Cooling down rate (according to IEC 60068-3-5)	K/min	3		5		2		5	
Heating up rate (according to IEC 60068-3-5)	K/min	2		5		2		5	
Temperature stability (depending on the selected temperature)	°C	±0.1 to ±0.3							
Homogeneity in space (depending on the set point value)	°C	±0.5 to ±1.8							
Admissible Dissipation at -40°C / -60°C	W	>500 / NA	>2k / >1k	>2k / NA	>8k / >5k	>500 / NA	>4.5k / >3k	>2k / NA	>10k / >8k
Data when operating with humidity									
Relative humidity range:	%RH	+10 to +98 limited by a dew point of +4°C to +94°C							
Test temperature range	°C	+10 to +95							
Dew point range	°C	+4 to +94							
Humidity stability over time	%RH	±3							
Condenser type		water							
Maximum consumed power	kW	25	25	38	45	28	32	46	59
Installed power	kVA	29.4	30.4	44.5	58	32.4	41.2	55.4	81.0
Water flow (at 18°C)	m³/h	1.6	1.1	2.5	2.5	1.6	1.6	3.7	4.8
Weight	kg	1100	1250	1150	1400	1250	1500	2400	2850
Outside dimensions									
Width	mm	1300 3400 2550*			1300	1300 4400 2550*		1300	
Depth					3600			5000	5300
Height					2550*			2550*	

The standard load capacity is 500kg/m² and 125kg/wheel.

Contact us for any test volumes in excess of 16m³, we build rigid structure chambers of up to 70m³

* + 200 mm over the chamber, removable on delivery. Corresponds to the electric ventilator motor.

Technical data 8 m³, 12m³ & 16 m³	units	WINCAL 8001-T/HE	WINCAL 8002-T/HE	WINCAL 8003-T/HE	WINCAL 8004-T/HE	WINCAL 1201-T/HE	WINCAL 1202-T/HE	WINCAL 1203-T/HE	WINCAL 1204-T/HE	WINCAL 1601-T/HE	WINCAL 1602-T/HE	WINCAL 1603-T/HE	WINCAL 1604-T/HE
Test volume (m³)		8				12				16			
Function		Hot Cold / Hot Cold Humid											
Test dimensions													
Width Depth Height	mm	1900 2100 2000				1900 3100 2000				1900 4200 2000			
Temperature range	°C	-40 to +180	-70 to +180	-40 to +180	-70 to +180	-40 to +180	-70 to +180	-40 to +180	-70 to +180	-40 to +150	-70 to +150	-40 to +150	-70 to +150
Cooling down rate (according to IEC 60068-3-5)	K/min	2		5		2		5		2		5	
Heating up rate (according to IEC 60068-3-5)	K/min	2		5		2		5		2		4.5	
Temperature stability (depending on the selected temperature)	°C	±0.1 to ±0.3											
Homogeneity in space (depending on the set point value)	°C	±0.5 to ±1.8											
Admissible Dissipation at -40°C / -60°C	W	>1k / NA	>4.5k/>3k	>3k / NA	>22k/>10k	>2k/>NA	>8k/>5k	>3.5k/NA	>25k/>11k	>2k/NA	>10k/>8k	>2k/NA	>28k/>12k
Data when operating with humidity													
Relative humidity range:	%RH	+10 to +98 limited by a dew point of +4°C to +94°C											
Test temperature range	°C	+10 to + 95											
Dew point range	°C	+4 to + 94											
Humidity stability over time (%RH)	%RH	±3											
Condenser type		water											
Maximum consumed power (kW)	kW	32	36	60	78	38	45	71	91	43	56	84	108
Installed power (kVA)	kVA	37.1	44.7	74.2	110.4	44.5	58.0	88.7	127.6	52.4	78.0	105.2	153.6
Water flow rate (m³/h at 18°C)	m³/h	1.9	1.6	5.5	6.7	2.5	2.5	6.7	7.6	3.7	4.8	8.0	9.5
Weight (kg)	kg	1750	1950	2170	2550	2450	2750	2950	3420	3250	3700	4000	4400
Outside dimensions													
Width	mm	2200				2200				2200			
Depth		5400	5250	6000	6000	6600	6220	7200	7000	7700	7500	8400	8100
Height		2550*				2250*				2550*			

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SOLID WALK-IN CHAMBER

Focus on a selection of optional Equipment...

Amongst all the possible combinations available for Solid Walk-in chamber, here is a choice of available options:

Choose your ergonomics

- **Separated machinery**
- **Specific wall portholes:** rectangular or circular, others on request.
- **2-Door opening system** from volumes of 4m³or 8m³.
- **Door with hollowed out floor**

A door threshold flush with the flooring for easy product loading.

- **Reinforced floor (cabinet bottom)** supporting 1000kg/m² or 3000 kg/m² with 250kg/wheel.
- **Non-slip flooring**
  Stainless steel embossed metal plates.
- **Access ramp**

Easy access for a rolling object

- **Stainless steel shelf**
- **Foldable stainless steel shelf**

Very easy to use shelves. They come in several parts and can be folded away on the edges of your test volume.

- **Specific support / trolley to include your products**

Roller support for photovoltaic panels, for example

- **Light column**
- **Side window**
- **Notches**
- **Ventilation variable speed drive**
- **Control and test bench acquisition:** measurement and supply

Choose your cooling mode

- **Remote air-cooled condenser**

Possibility of replacing the water cooling system with a remote or built-in air-cooled condenser solution.

- **Chiller**

Installation cooler.
Cold water production system for water condensation unit.

Choose your aeraulics

- **Air distribution plenum for regulated air blowing.** (calm or semi-calm air)

Adjustable air flow piping to optimise load tests and achieve better consistency.

Choose your air handling according to your applications

- **Air dryer**

Anti-condensation system to limit the condensation on your products that are vulnerable to humidity.

- **Neutral gas inerting** (nitrogen, for example)
- **Oxygen analyser**

Increase the safety of your chamber

- **Safety pack** for battery, fuel tests, etc.)
- **Oxygen analyser**

specific trolley for photovoltaic panels

Side square portholes

Side window and portholes

Efficiency, safety, control... a step further with Spirale 3

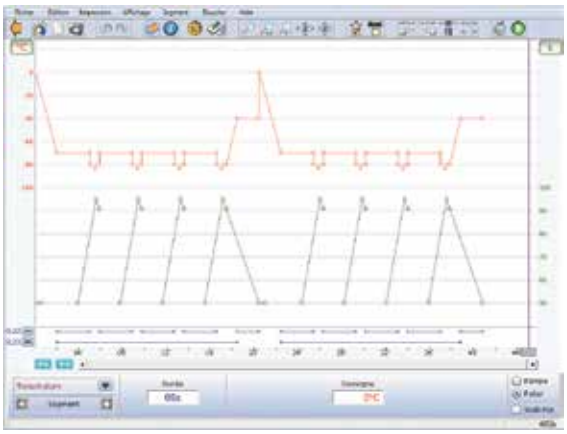
A pioneer in the control of climatic chambers, and unique in its performance/ dimension ratios, large volume chambers all include the reference software Spirale 3

A control system including the reference H.M.I., Spirale 3 has perfect ergonomics and user-friendly controls.

Using the 3-level dashboard, you choose the interface you need: production, standard or laboratory mode for your advanced tests.

Numerous configuration options

Access to these options and to the equipment commands can be controlled by eight password-protected levels.



ProgWin programme editor

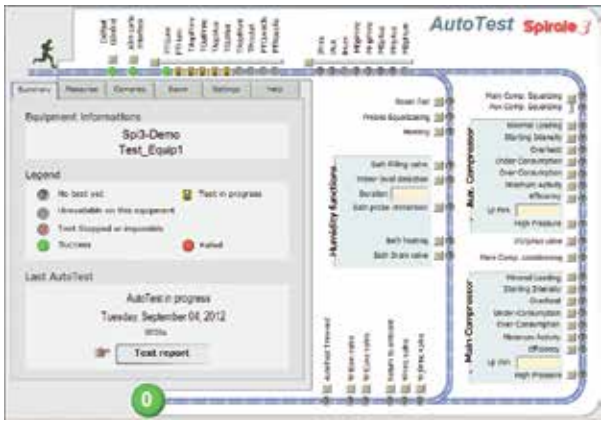
Our programme editor has an ergonomic user interface and takes into account the touch screen on which you draw your test profiles using a finger or a stylus.

Spirale 3 includes a user-friendly and complete test manager for accurate and easy traceability. Editing statistics, exporting data and analysing information (speed and stability) become quick and easy applications.

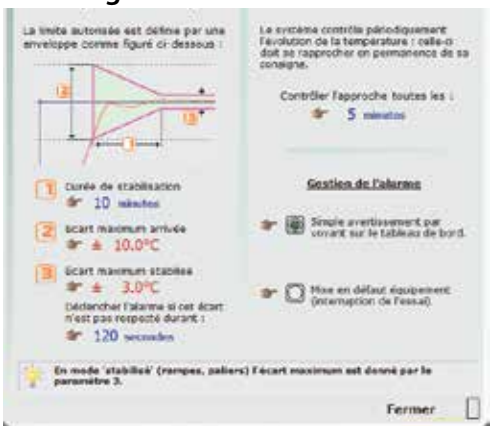
AutoTest

Using the SPIRALE 3 technology and the on-board sensors in the machine room, the autotest offers an exclusive function: the verification/test of refrigerated components, compressor performances, load status, etc.

Example of an IEC 60068-2-30 test



Tracking alarm



Network/Internet

A SPIRALE exclusive feature, controlling your equipment remotely is as easy as creating a shortcut on a Windows desktop and you don't need to install anything on your desktop PC. A built-in web server checks your equipment's status using any Internet browser. If the equipment's alarm sounds or at the end of a test, Spirale automatically notifies you by sending a message.

View our full SPIRALE 3 brochure on our web site www.climats-tec.com or contact us.

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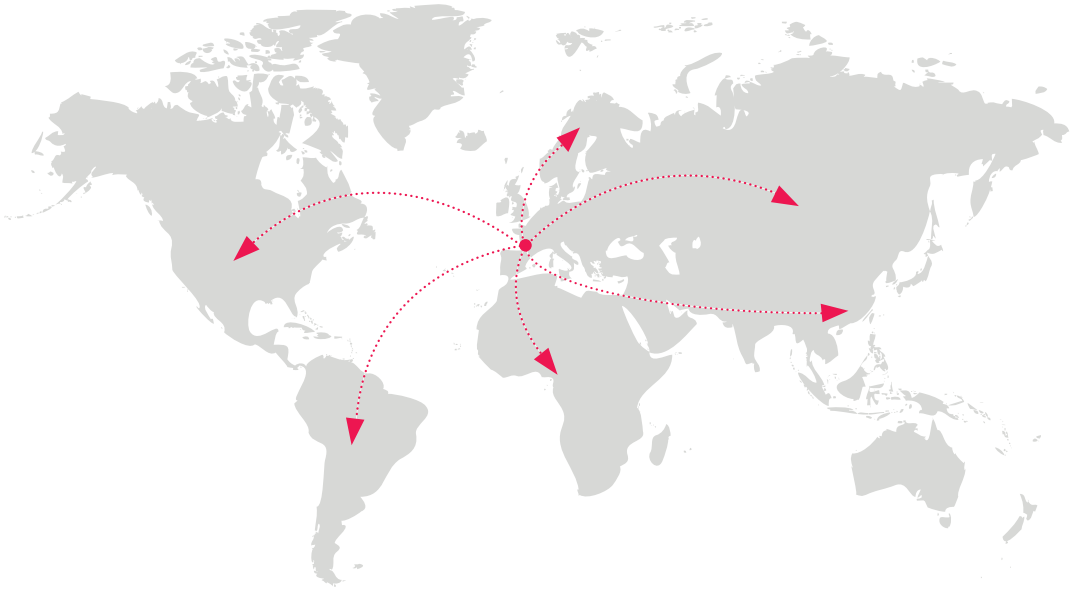
options: offset machine room, light column

AN INTERNATIONAL **PRESENCE**



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At the core of the Climats development strategy, Export relies on a wide-ranging network of intercontinental distributors.

Our partners market and service Climats equipment all over the world; they are fully skilled in our technology and fully committed to a long-term relationship.

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