

# ENVIRONMENTAL SIMULATION



Qualifying  
your competitive  
edge

**Climats**  
a schunk company



## Last state of the art

### Spirale 3

Reliable and accurate system, **Spirale 3** is the reference software solution for controlling over 4,000 environmental test chambers and test benches worldwide. It was developed by Climats's engineers for simple and efficient management of your machine.



Unique on the market, the **Energy Saving** control mode, in **Spirale 3**, scrupulously controls your energy consumption. A saving of at least 40% can be made on the electrical consumption of your typical cycles.



## Innovation

### Pushing the boundaries further

Designer-manufacturer for 40 years, Climats has been developing high tech equipments to perform environmental test.

The 6000 m<sup>2</sup> industrial plant, located in South-West of France, produces more than 700 environmental chambers sold worldwide each year.

Historically attached to the know-how of Climats, our customers come from domains as varied as automotive, aeronautics, space, defense, telecommunication, test labs.

## Our 6 commitments

- INNOVATION
- ADAPTABILITY
- REACTIVITY
- RELIABILITY
- FLEXIBILITY
- TECHNOLOGY



# EXCAL

ENVIRONMENTAL TEST CHAMBER



## 8 EXCAL standard test volumes

Your applications require specific functions and capacities, that is why Climats has a wide range of comprehensive standard machines.

- 8 test volumes from 140 to 1800 litres
- Temperature range from -90°C to +250°C
- Climatic test: relative humidity from 10% to 98%
- Temperature variation speed from 2 to 20°C/min

*For more information, check out our EXCAL leaflet*

# SCAL

THERMAL SHOCK



## 7 families of thermal shock

Our thermal shocks have been designed and developed to meet the strictest test standards with extreme thermal conditions from -90°C to +220°C.

- 2 or 3 zones, vertical or horizontal, from 70 to 1500 dm<sup>3</sup>
- Hot-Cold or Rapid Temperature Change

*For more information, check out our SCAL leaflet*

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## STRESS SCREENING FAST TEMPERATURE VARIATION



Standardized  
and tailor-made test volume  
from -90°C to +180°C.  
Temperature variation speed  
from 2 to 20°C/min.

HOT  
COLD  
HUMIDITY  
**EXCAL**



Hot-Cold-Humidity.



**COMBINED**  
VIBRATION  
TEMPERATURE



## AIR GENERATORS



Environmental chambers  
equipped with ducts  
to regulate temperature  
in a specific product test area.



## BENCHTOP



Low footprint,  
high mobility.



## THERMAL SCHOCK



Product life span setting  
or stress ageing to discard  
weak components.



## SALT SPRAY



Salt spray  
& humidity test.



## OVENS





**WALK-IN  
CHAMBERS**



**ALTITUDE  
TEST CHAMBERS**



**Spirale 3**

THE CONTROL  
SOFTWARE  
REFERENCE



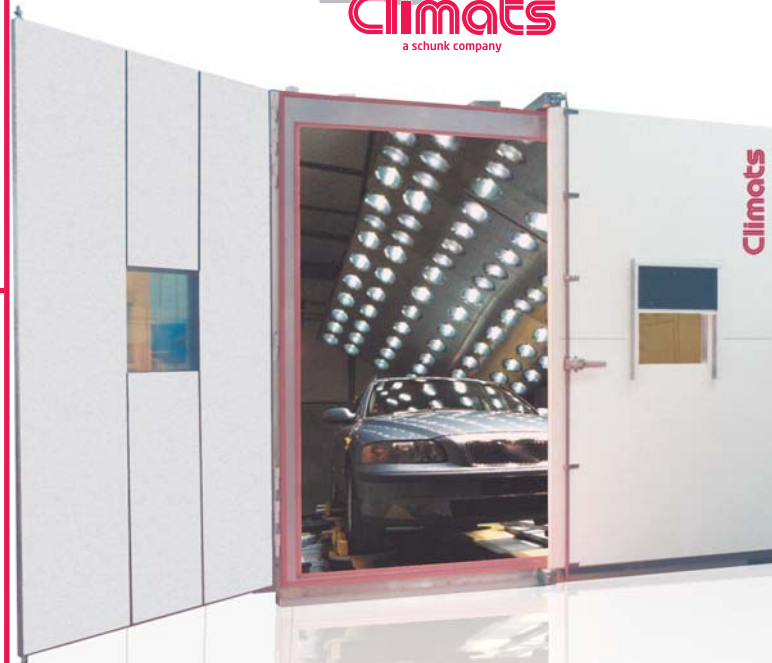
**CUSTOMIZED  
PRODUCTS**



**40** YEARS  
**Climats**  
a schunk company

UNIVERSAL

INDUSTRIAL



Example: sunlight simulation.

# COMBINED VIBRATION-TEMPERATURE



## Adaptable chambers

- Tests on shakers and/or slip tables with removable bottoms or with notches.
- Temperature range from  $-90^{\circ}\text{C}$  to  $+180^{\circ}\text{C}$ .
- Temperature variation: up to  $20^{\circ}\text{C}/\text{min}$ .
- Test volumes from 100 l to several  $\text{m}^3$ .
- For combined tests:
  - Vibrations and temperatures
  - Vibrations, temperatures and humidity
  - Temperatures and/or humidity

# WALK-IN CHAMBERS



## Solid construction chambers

- Large test volumes, up to 100 m<sup>3</sup>.
- Temperature range from -80 °C to +200 °C.

## Modular chambers

- Temperature range from -70 °C to +80 °C.
- Easy to mount.
- Assembled panel.



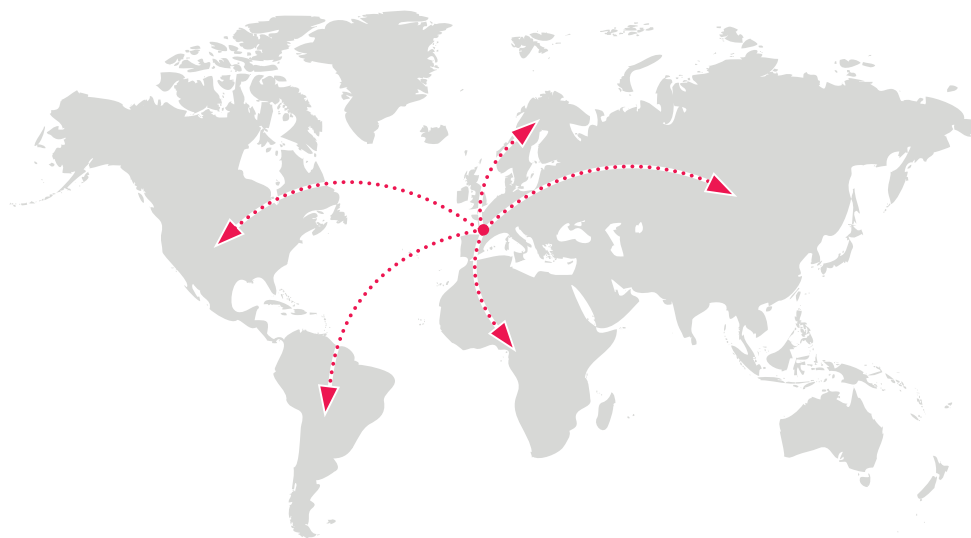
## Laminar flow atmosphere

- Air flow speed from 0.25 to 0.5 m/s.
- Vertical laminar air flow simulating the natural convection.

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## AN INTERNATIONAL PRESENCE



- EUROPE As the key development strategy for, Export relies on a large network of worldwide distributors.
- ASIA
- AMERICA 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.
- AFRICA

Your distributor:

**Climats**  
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