

Climats
a schunk company

EXCAL²

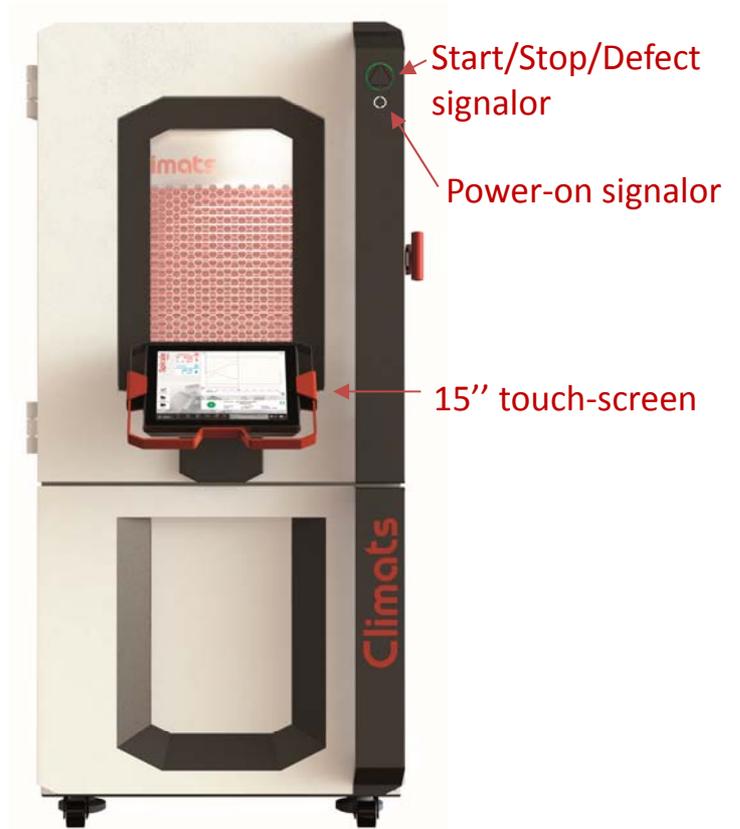


— 2018/2019

Redesigned ergonomics

Ergonomic and ease of use

- ▶ the 140l et 220l chambers are designed for standard door clearances (<800mm)
- As standard, chamber on casters with viewing window



Redesigned ergonomics

Ergonomic and ease of use

- ▶ • Supplies are centralized and identified at the back of the chamber
- Dedicated and protected storage area for the capacitive probe

100 mm portholes

Capacitive probe storage area



INNOVATIONS

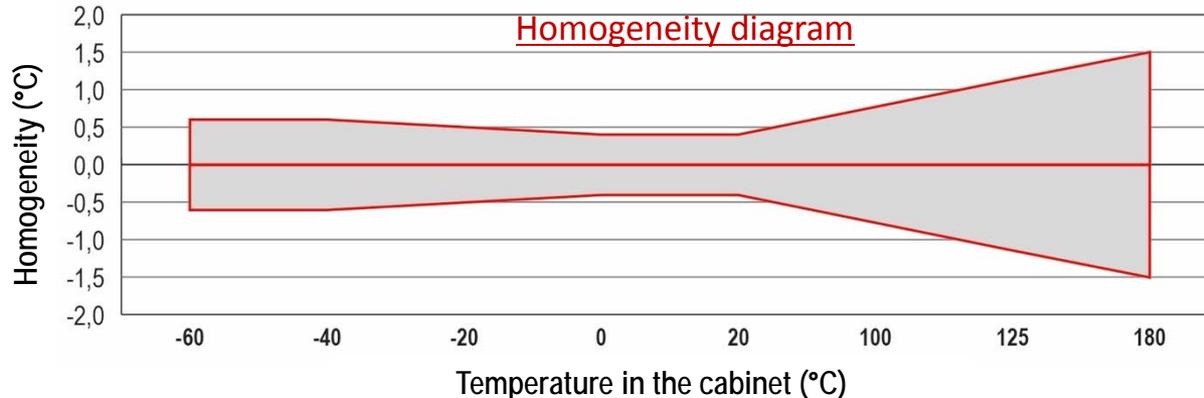
- ▶ • **F-GAS ready.** Use of R449A gas (GWP=1 397). Reduction of leakage checks
- **New aeraulics**
Double-airflow ventilation to ensure natural homogeneity
- Design suitable for complex tests of IEC 60068-2-30 and IEC 600-68-2-38 type

WIDE AND HIGH-PERFORMANCE RANGE

- ▶ • Temperature range : -85°C to +180°C
as an option : extension + 200°C, +250°C and up to -90°C
- 8 test volumes : 140l, 220l, 400l, 540l, 770l, 1000l, 1400l & 1800l.
- Transition speed : up to 25°C/min

THERMAL TESTS & HOMOGENEITY DIAGRAM

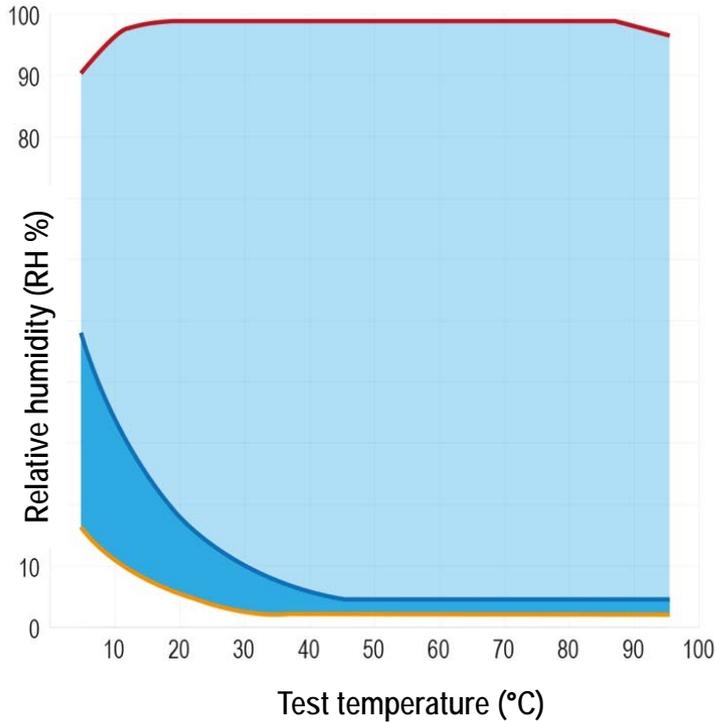
- ▶ • Temperature regulation stability : $\pm 0,1^{\circ}\text{C}$ to $\pm 0,3^{\circ}\text{C}$
- Temperature homogeneity in the cabinet, up to $+180^{\circ}\text{C}$: $\pm 0,4^{\circ}\text{C}$ to $\pm 1,5^{\circ}\text{C}$ (outside measurement uncertainties)
- Temperature gradient up to $+180^{\circ}\text{C}$ according to IEC 60068-3-5 or JJF1101 : $\leq 2^{\circ}\text{C}$



CLIMATIC TESTS & HUMIDITY DIAGRAM

- ▶ • Temperature range : +10°C to +95°C
- Dew temperature range : -5°C to +95°C
- Relative humidity range 5%HR to 98%HR, for temperature from +10°C to +95°C
- Relative humidity regulation stability : $\pm 2\%$ HR
- Maximum humidification water consumption : <2l/h

CLIMATIC TESTS & HUMIDITY DIAGRAM



- Limit with dew point range at +95°C
- Limit with dew point range at -5°C
- Limit with cold cascade and/or dryer option
- Chamber standard operating range
- Extended of the chamber operating range with the cold cascade and/or dryer option

HARDWARE

Ergonomic, reliability and ease of use

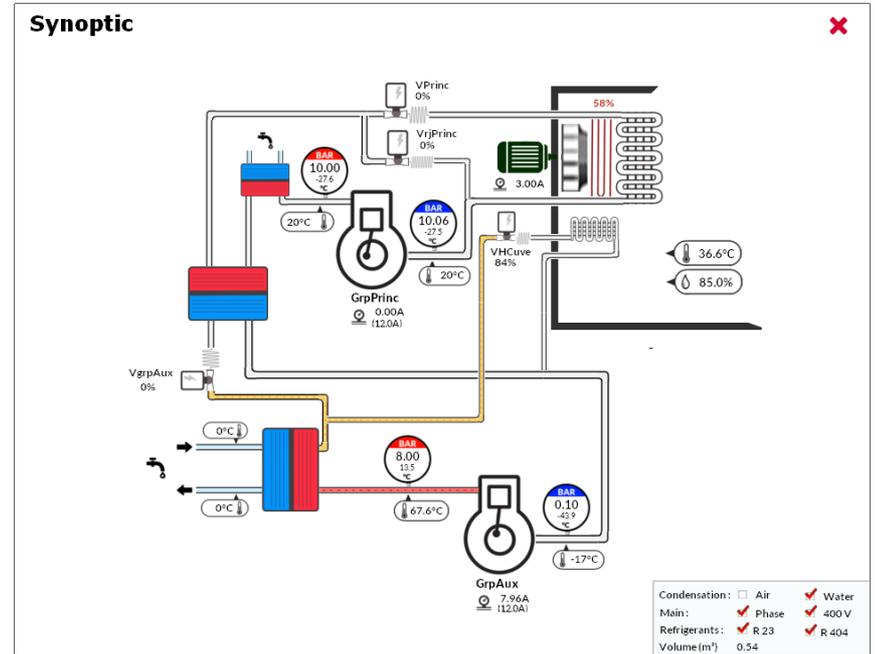
- ▶ • 15" touch-screen Panel PC
- SSD 128Go memory
- Multipoint capacitive slab
- Windows 7
- 2 USB and network connectors in the front



Maintenance and monitoring

Complete and fast analysis

- Circuit analysis > **Operating synopsis**
- **Real time recording and storage**
- Auto-check mode > **Autotest**
- **Analysis assistance** : error messages
- **Remote assistance**

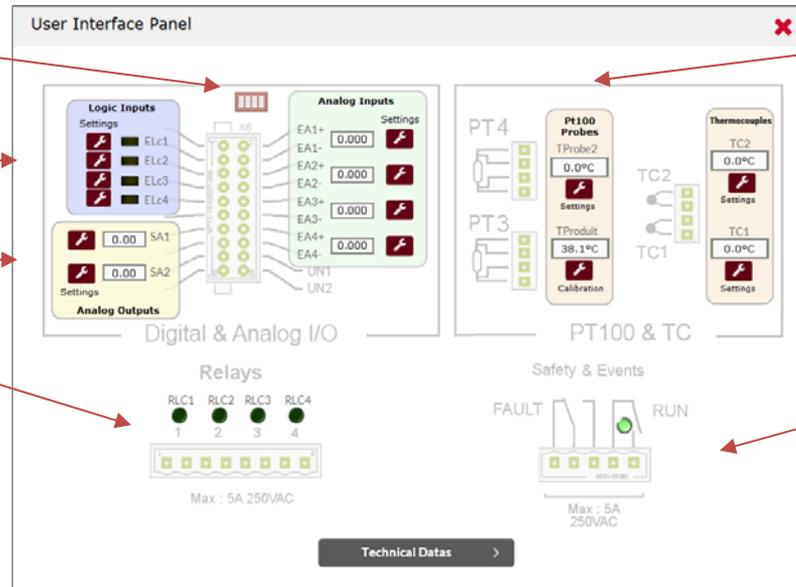


Operating synopsis : real time monitoring of your equipment.

User Interface Panel

Centralized connexions

- ▶ **EXCAL** is equipped with an User Interface Panel that gathers, in one place, a complete set of connectors with an easy access :



0/10 V or 4/20 mA switch

4 logical inputs

2 analogue outputs

4 programmable relays

2 PT100 (4 wires) sensor inputs

2 thermocouples

2 contacts : chamber operating status

SPIRALE VISION

Intuitive control

- ▶ • 3 access interfaces :
Production,
Laboratory,
Advanced
- Status indicator
- Remote control via the network

The screenshot displays the Spirale Vision control interface. On the left, the 'Spirale Vision' logo is visible. The main area is divided into several sections:

- Temperature Control:** Shows a current temperature of 3.8°C and a target of 52.0°C. A '2.8 Slope' indicator is present. A gear icon for settings is in the top right.
- Humidity Control:** Shows a current humidity of 90.4% and a target of 40.0%. A water drop icon is present. A gear icon for settings is in the top right.
- Profiles List:** A list of profiles with a 'Test name' field set to 'Test of May,25 2018' and 'Manual-Mode'. A note says 'Click on a profile to start a new test.' The list includes:

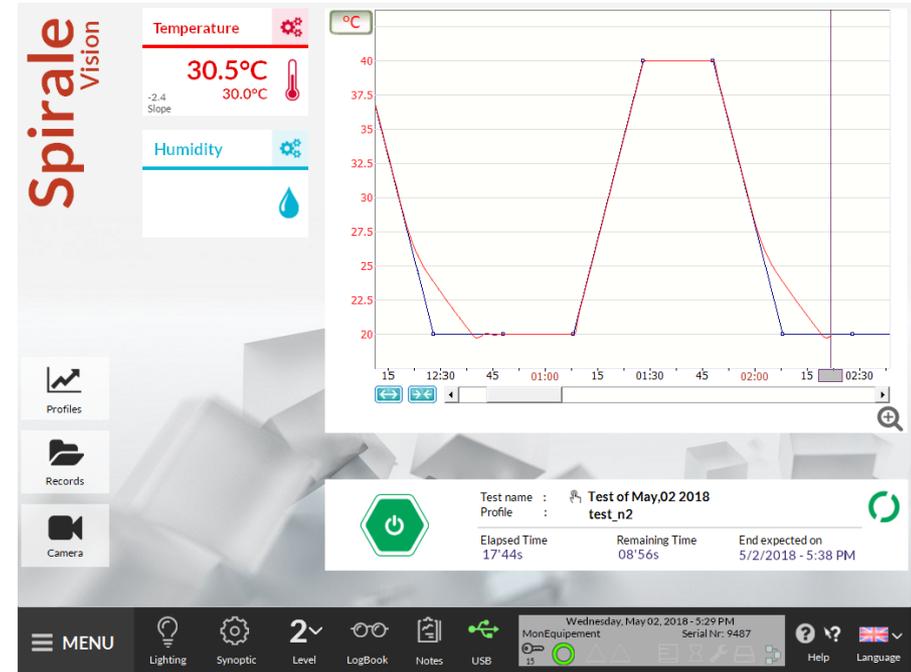
1	CALTEMP	2	testSL2
3	Merged_Profile	4	testSL
5	12345	6	Mode-Manuel
7		8	
- Status Indicator:** A red octagonal 'STOP' sign is shown next to 'Remaining Time 9998h59' and a green circular refresh icon.

At the bottom, there is a navigation bar with icons for 'MENU', 'Lighting', 'Synoptic', 'Level', 'LogBook', 'Notes', 'USB', and system information including 'Friday, May 25, 2018 - 9:37 AM', 'MonEquiment', and 'Serial Nr: 9487'. There are also icons for 'Help' and 'Language'.

Production mode : a single key to start and archive your tests

SPIRALE VISION

- ▶ • Customizable home screen (logo and wallpaper)
- Delayed tests start / end
- Email sent on alarm or test stop
- External communication protocol (Ethernet/USB/RS232)
- Alarms display



Laboratory mode : Freely select a programme and monitor it while running using the CycleWin recorder

SPIRALE VISION

- ▶ Advanced mode :
Enrich your test experience by additional extensions for measurements and customized automatisms.

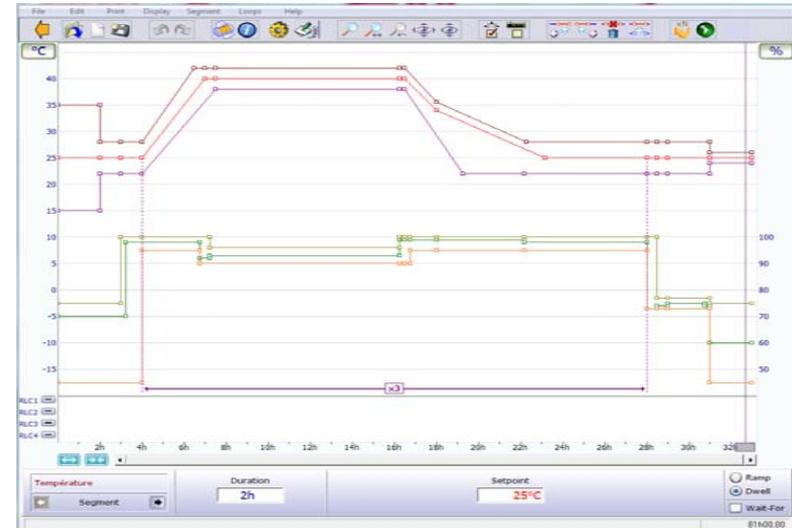
The screenshot displays the 'Climats' control interface, a Schunk company product. The main display area shows 'Manual-Mode' with a serial number '9999h00'. Below this, there are controls for 'Manual' (a red dot) and 'Profile' (a line graph icon). A 'Delayed Start' section features a clock icon. At the bottom of the main area, a 'Spirale Vision' camera icon is visible. The interface is divided into several panels:

- Temperature:** Shows 0.0°C and 55.0°C. Includes a '0.2 Slope' indicator and a gear icon for settings.
- Humidity:** Shows 55.0% with a water drop icon and a gear icon for settings.
- User Panel:** Located on the right, it includes 'Relay Outputs' (RLC1-4), 'Inputs' (ELC1-4), 'Fan Speed Variator' (0.0 Hz, 50.0 Hz), 'Door locking', 'Dryer' (OFF, AUTO, FORCED), 'Min Max safety', and 'Hygrometer' (Dew Point: -46.1 °C).
- Machine Information:** Top right corner shows 'Machine type pch60', 'Serial Nr 9487', and 'Equipment's name MonEquiment'.
- Test Information:** A central panel shows 'Test name : Manual-Mode', 'Elapsed Time', 'Remaining Time', and 'End expected on'.
- Bottom Bar:** Contains navigation icons for 'MENU', 'Lighting', 'Synoptic', 'Level', 'LogBook', 'Notes', 'USB', 'MonEquiment', 'Serial Nr: 9487', 'Help', and 'Language'. The date and time 'Monday, May 28, 2018 - 2:30 PM' are also displayed.

SPIRALE VISION

PROGWIN, profile editor

- ▶ Powerful functions such as :
 - Viewing of the profile in « Run » mode (loops execution)
 - Channels asynchronous profile edition
 - Profile models organisation
 - "Wait-For" function to ensure the respect of the dwell times
 - Time-based comments



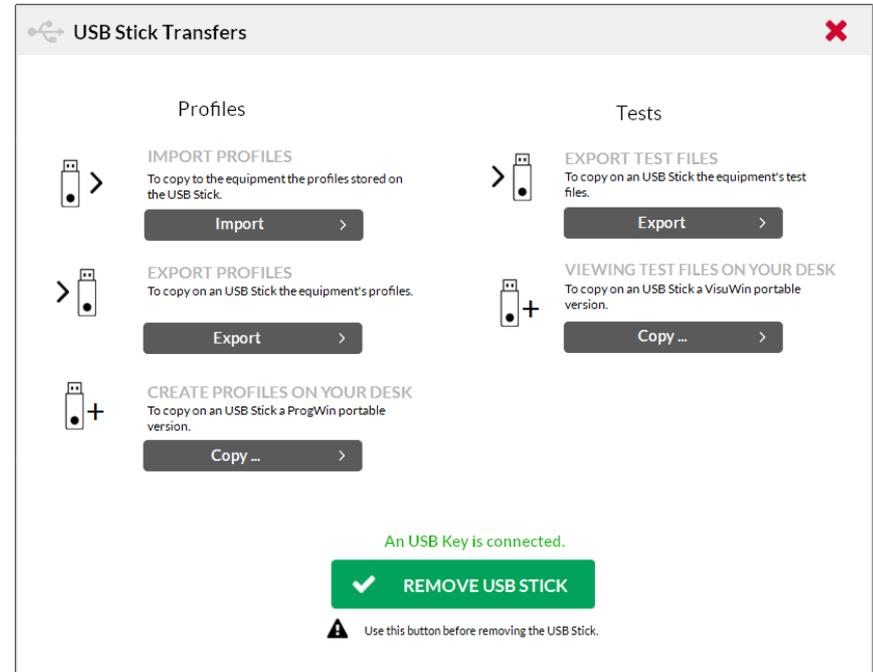
PROGWIN : profile example for IEC 60068-2-30

Quick and easy tests creation

SPIRALE VISION

VISUWIN, test manager

- ▶ Accurate and easy traceability :
 - Use of the test photos
 - **Tests analyses** : speed, homogeneity, mini/maxi/average
 - Addition of comments
 - Test library
 - Exports (.xls, .csv,...)
 - Test reports edition
 - Profiles and tests transfert by USB drive



USB export assistant : your tests can be used directly