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YOUR OWN CLIMATE

ARALAB is a company specialized in designing, developing, manufacturing and servicing of **environmental simulation chambers** and **controlled environment rooms.**

Since 1985 we have been perfecting ways to create and control **temperature, humidity, light, air flow** and many other environmental conditions.

What drives us is simple: to develop solutions that go beyond the expectations of users so customers can enjoy the best equipment for their research and testing applications.

ISO 9001 BUREAU VERITAS Certification

Aralab is ISO:9001 certified for it's Quality Management System
Aralab is ISO:14001 certified for it's Environmental Management System

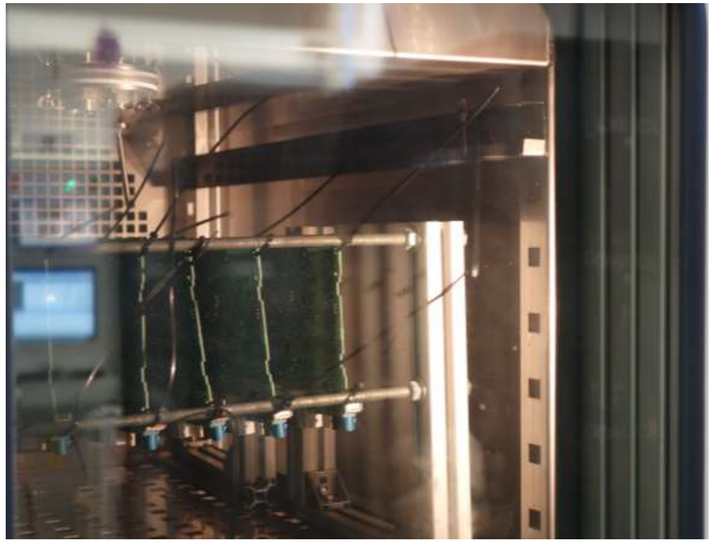
TESTING

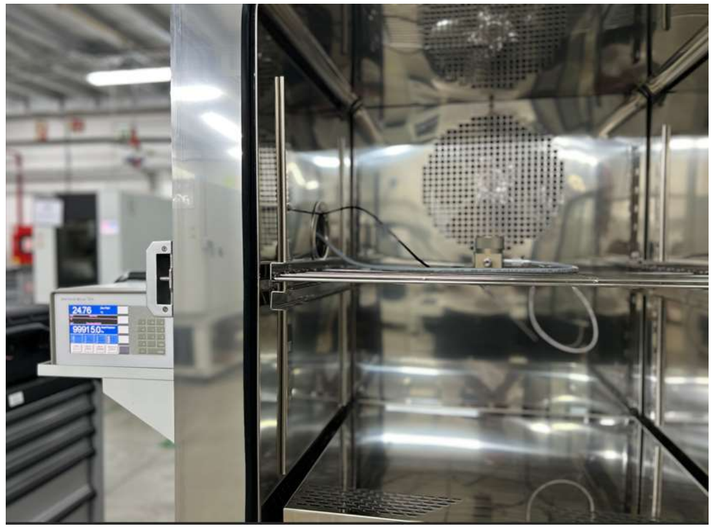
ENVIRONMENTAL AND TEMPERATURE TESTING CHAMBERS

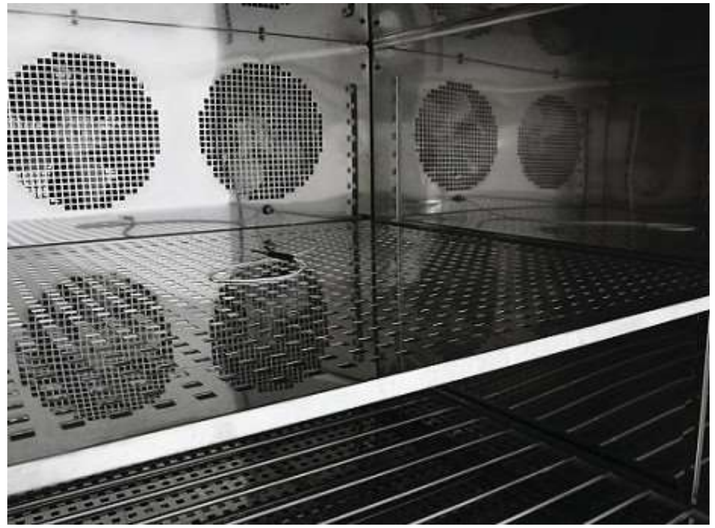
ARALAB **TESTING**

Environmental and Temperature Testing chambers

- **Automotive components**
- **Electronics**
- **Aeronautics**
- **Coatings**
- **Building materials**
- **Calibration and Metrology**
- **Quality Control**
- **Pharmaceutical and Medical devices**
- **R&D**
- **HVAC-R**
- **Solar PV**







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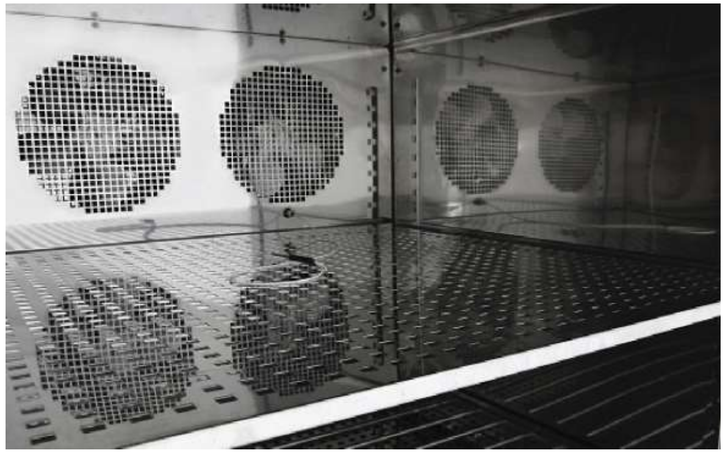
KEY FEATURES

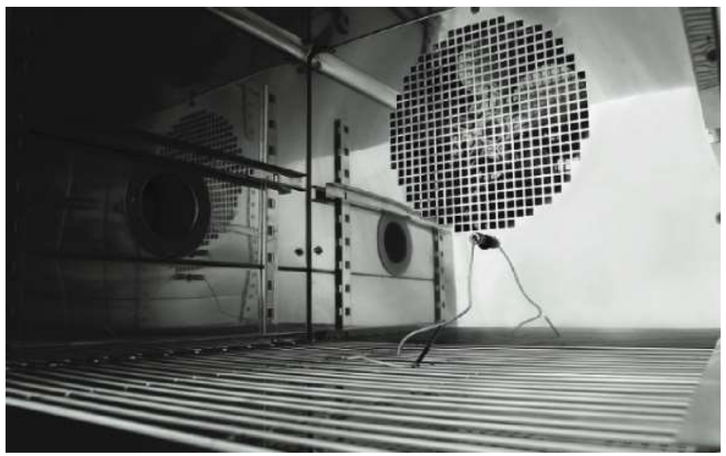
- Environmental conditions controlled with consistent precision through the years
- The most reliable technology in climate simulation
- Internal aerodynamic optimization to ensure uniformity of climatic conditions
- Highly resistant stainless-steel interior for maximum durability and easy cleaning
- Flexible interior with height adjustable and removable stainless-steel shelves
- Time saving features with easily configurable testing programs that can run, start and stop automatically
- Compliant with international standards and requirements EN, IEC, DIN, ISO, NP and UNE

SOME TESTING REFERENCES

TESTA CT & TT TESTING CHAMBERS

300 TO 2.000 LITERS “REACH-IN” ENVIRONMENTAL CHAMBERS FOR CLIMATIC AND/OR TEMPERATURE TESTING





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TESTA CT & TT 300 TO 2000 LITRES TESTING CHAMBERS

‘REACH-IN”ENVIRONMENTAL CHAMBERS FOR CLIMATIC AND/OR TEMPERATURE TESTING APPLICATIONS

‘REACH-IN’ TESTING CHAMBERS	
PERFORMANCE IN CLIMATIC TESTING RANGE (TEMPERATURE + HUMIDITY CONTROL)	
TEMPERATURE RANGE	10ºC to 90ºC
TEMPERATURE UNIFORMITY	± 0,1ºC to ± 1,0ºC (1b)
TEMPERATURE FLUCTUATION	± 0,1ºC to ± 0,3ºC (1b)
HUMIDITY RANGE	**10% RH to 98% RH**
HUMIDITY FLUCTUATION	± 0,5% RH to ± 2% RH
PERFORMANCE IN TEMPERATURE TESTING (TEMPERATURE CONTROL WITHOUT HUMIDITY)	
TEMPERATURE RANGES	**-75ºC and -50ºC, up to 180 ºC**
TEMPERATURE UNIFORMITY	± 0,5ºC to ± 1,5ºC
TEMPERATURE FLUCTUATION	± 0,1ºC to ± 0,5ºC
TEMPERATURE RATE OF CHANGE **HEATING**	From 2,5ºC to 10ºC / minute
TEMPERATURE RATE OF CHANGE **COOLING**	From 2ºC to 3,5ºC / minute || 5ºC / minute in “5K models” || 10ºC/minute available in “10K models”
MODELS / DIMENSIONS AVAILABLE	
INTERNAL TEST VOLUMES	**300, 500, 1.000 , 1.500 and 2.000 liters**
OTHER TECHNICAL DATA	
NOISE LEVEL	55 to 68 dBA
ELECTRICAL CONNECTION	3/N/PE AC 400V ± 10% 50Hz

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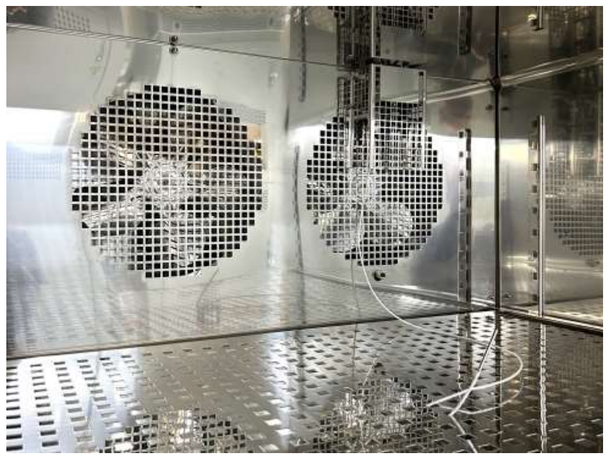
TESTA CT & TT 300 TO 2000 LITRES TESTING CHAMBERS

‘REACH-IN”ENVIRONMENTAL CHAMBERS FOR CLIMATIC AND/OR TEMPERATURE TESTING APPLICATIONS



CONSTRUCTION

Interior: AISI 304 hermetical welded, vapor tight, stainless steel

Exterior: Zinc mild steel with epoxy coating finish (RAL 7035)

Insulation: Rock Wool

Interior light: Halogen lamp (available with optional window)

Door: Double silicone joints and anti-condensation heating frames (optional window)

Security, Communications and Mains: on the side of the chamber with high/low safety thermostat; mains switch; audible and visual alarms; RJ45 communications ports

ENVIRONMENTAL CONTROL

Heating: stainless steel electric heaters located in the air treatment tunnel

Cooling: scroll compressor group. -75°C chambers and models with cooling rate upgrades will have water cooled condenser as standard and air / water as option.

Humidification and Drying: Thermostatic bath with dew point control. For drying, an additional dry coil

Temperature control: Two sensors: one PT100-A located on the air return channel, and one PT100-A, movable sensor for flexible placing inside chamber

Humidity control: Psychrometric, Capacitive, or both.

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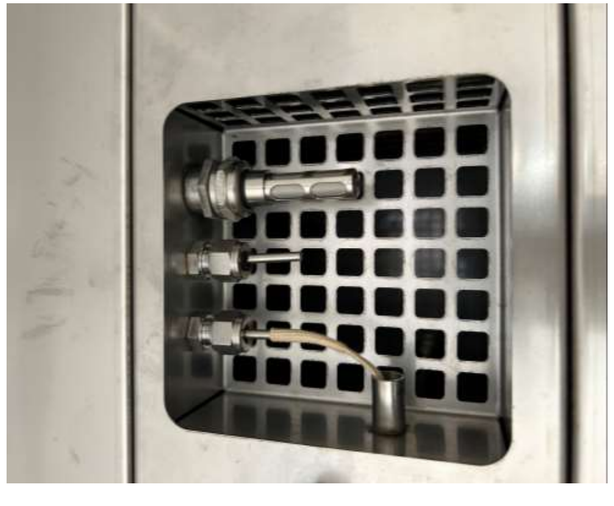
TESTA ‘WALK-IN’ 8.000 TO 12.000L TESTING CHAMBERS

‘WALK-IN”ENVIRONMENTAL CHAMBERS FOR CLIMATIC AND/OR TEMPERATURE TESTING APPLICATIONS



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TESTA 8.000 TO 12.000 LITRES TESTING CHAMBERS

‘WALK-IN’ ENVIRONMENTAL CHAMBERS FOR CLIMATIC AND/OR TEMPERATURE TESTING APPLICATIONS

ARALAB TESTA ‘WALK-IN’ TESTING CHAMBERS	
PERFORMANCE IN CLIMATIC TESTING RANGE FOR TESTA CHAMBERS (TEMPERATURE + HUMIDITY CONTROL)	
TEMPERATURE RANGE	10ºC to 95ºC
TEMPERATURE UNIFORMITY	± 0,5ºC to ± 1,0ºC
TEMPERATURE FLUCTUATION	± 1ºC
HUMIDITY RANGE	**10% RH to 95% RH**
HUMIDITY FLUCTUATION	± 1% RH to ± 3% RH
PERFORMANCE IN TEMPERATURE TESTING FOR TESTA CHAMBERS (TEMPERATURE CONTROL)	
TEMPERATURE RANGES	**-60ºC and -40ºC, up to 150 ºC**
TEMPERATURE UNIFORMITY	± 0,5ºC to ± 1,5ºC
TEMPERATURE FLUCTUATION	± 0,1ºC to ± 0,5ºC
TEMPERATURE RATE OF CHANGE **HEATING**	From 1,5ºC to 5ºC / minute
TEMPERATURE RATE OF CHANGE **COOLING**	From 1ºC to 7ºC / minute
MODELS / DIMENSIONS AVAILABLE	
INTERNAL TEST VOLUMES	**8.000, 12.000, or 18.000 liters**
OTHER TECHNICAL DATA	
NOISE LEVEL	65 to 75 dBA
ELECTRICAL CONNECTION	3/N/PE AC 400V ± 10% 50Hz

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TESTA 8.000 TO 12.000 LITRES TESTING CHAMBERS

‘WALK-IN’ ENVIRONMENTAL CHAMBERS FOR CLIMATIC AND/OR TEMPERATURE TESTING APPLICATIONS

CONSTRUCTION

Interior: AISI 304 hermetical welded, vapor tight, stainless steel

Exterior: Zinc mild steel with epoxy coating finish (RAL 7035)

Insulation: Rock Wool

Interior light: Halogen lamp (available with optional window)

Door: Double silicone joints and anti-condensation heating frames (optional window)

Security, Communications and Mains: on the side of the chamber with high/low safety thermostat; mains switch; audible and visual alarms; RS232 (or RJ45) communications ports

ENVIRONMENTAL CONTROL

Heating: stainless steel electric heaters located in the air treatment tunnel

Cooling: scroll compressor group. -40°C and -60°C chambers and models with cooling rate upgrades will have water cooled condenser as standard and air / water as option.

Humidification and Drying: Thermostatic bath with dew point control. For drying, an additional dry coil

Temperature control: Two sensors: one PT100-A located in air treatment tunnel and one PT100-A, movable sensor for flexible placing inside chamber

Humidity control: Psychrometric, Capacitive, or both.

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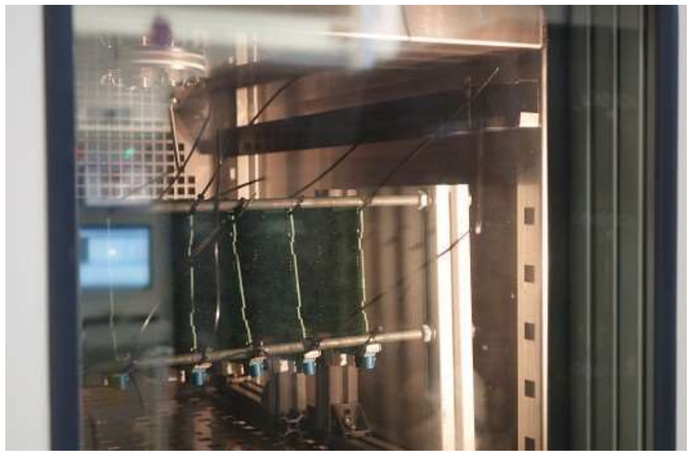
TEMPERATURE SHOCK – FITOTERM 150 CTE

2 ZONES TEMPERATURE SHOCK TESTING



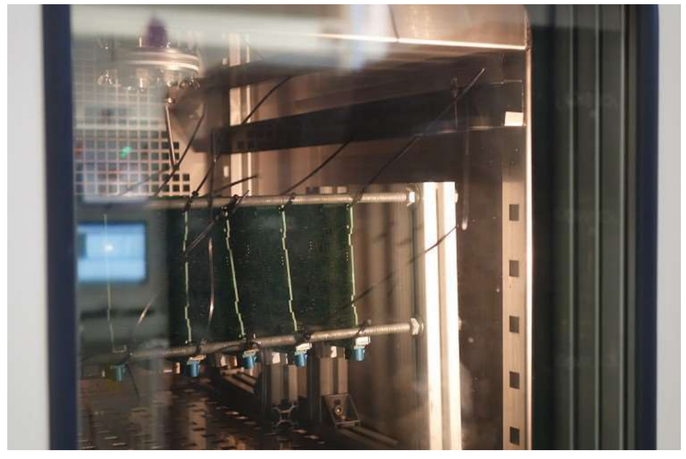
TEMPERATURE SHOCK – FITOTERM 150 CTE THERMAL SHOCK CHAMBER

TEMPERATURE TESTING CHAMBER FOR TEMPERATURE SHOCK TESTING

FITOTERM 150 CTE THERMAL SHOCK	
SPECS	
TEMPERATURE RANGES	**-75ºC to 200ºC**
TEMPERATURE IN HOT (UPPER) CHAMBER	Ambient to +200ºC
TEMPERATURE IN COLD (LOWER) CHAMBER	-75º C to +60º C
TRANSFER TIME BETWEEN HOT AND COLD CHAMBER	≤ 5 seconds
TEMPERATURE FLUCTUATION (TIME)	≤ ± 0,5ºC
TEMPERATURA PRECISION (SPACE)	≤ ± 1,0ºC
MODELS/DIMENSIONS AVAILABLE	
INTERNAL TEST VOLUME (NET)	**125 liters**
TEST SPACE DIMENSIONS	410 mm x 470 mm x 650 mm
ADMISSABLE WEIGHT LOAD	50 Kg
OTHER TECHNICAL DATA	
NOISE LEVEL	60 to 70 dBA
ELECTRICAL CONNECTION	3/N/PE AC 400V ± 10% 50Hz

TEMPERATURE SHOCK - 150 CTE THERMAL SHOCK CHAMBER

TEMPEREATURE TESTING CHAMBER FOR TEMPERATURE SHOCK TESTING



CONSTRUCTION

Interior: AISI 304 hermetical welded, vapor tight, stainless steel

Exterior: Zinc mild steel with epoxy coating finish (RAL 7035)

Insulation: Rock Wool

Door: Double silicone joints and anti-condensation heating frames

Observation Window: located at Hot (upper) chamber door. Multilayer anti condensation glass

Interior light: Halogen lamp

Security, Communications and Mains: on the side of the chamber with high/low safety thermostat; mains switch; audible and visual alarms; RS232 (or RJ45) communications ports

ENVIRONMENTAL CONTROL

Heating: stainless steel electric heaters located in the air treatment tunnel

Cooling: scroll compressor group. Water cooled condenser as standard.

Temperature control: Two sensors: one PT100-A located in air treatment tunnel and one PT100-A, movable sensor for flexible placing inside chamber

Cool-up Feature: accelerate cooling of the Hot (upper) chamber by fresh air renewal

TESTA 600 & 1200 PH-CI CURING CHAMBERS

REACH-IN CHAMBERS WITH TEMPERATURE AND HUMIDITY CONTROL

TECHNICAL DATA FOR FITOCLIMA 600 & 1200 PH-CI CHAMBERS	
TEMPERATURE RANGE [1]	-5°C to 60
TEMPERATURE PRECISION	± 0,5°C
TEMPERATURE UNIFORMITY	± 1,0°C
HUMIDITY RANGE [1]	20 to 98% rH
HUMIDITY PRECISION	± 1% rH
HUMIDITY UNIFORMITY	± 2% rH
SHELVES (STANDARD CONFIGURATION)	FitoClima 600: 4 stainless steel reinforced shelves FitoClima 1.200: 8 stainless steel reinforced shelves
STANDARD WIRE SHELF SIZE	620mm x 520mm
STORAGE [2]	0.33m^2 and 18 Kg weight load (per shelf)
STORAGE (STANDARD CONFIGURATION)	FitoClima 600 (w/ 4 shelves): 1,33 m^2 FitoClima 1.200 (w/ 8 shelves): 2,67 m^2
AIRFLOW	0.2 m/s uniform across the shelves
INTERNAL VOLUMES	542 and 1.200 liters

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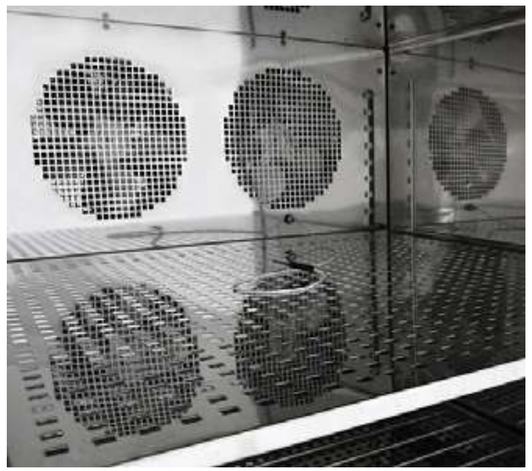
COMMON ‘TESTA REACH-IN’ ACCESSORIES

Door with observation window

Air Dryer



Reinforced SS shelves (+100Kg)

Latex Gloves working ports

Safety stack light signal

Integrated Water Tank

Gas Sensors

Freeze-Thaw testing system

(...)

FitoLog Software pack

Cooling / Heating rate upgrades

Water or Air cooled condensers

Safety door lock

Additional entry ports

ATEX and EUCAR safety systems

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TESTA_E

New Line of Environmental and Temperature Testing chambers

BENCHTOP AND COMPACT
REACH-IN
TEMPERATURE SHOCK

Click image to see Highlights movie

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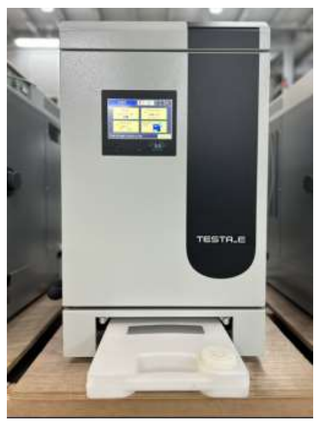
TESTA_e MINI

30 LITER BENCHTOP CHAMBER WITH TEMPERATURE CONTROL

TESTA_E MINI TT 30 E65

TEMPERATURE RANGE	-65°C to +150°C
TEMPERATURE FLUCTUATION	± 1°C
TEMPERATURE DEVIATION	± 2.0°C (temperature ≤ 100°C); ± 3.0°C (temperature > 100°C)
HUMIDITY RANGE	-
HUMIDITY DEVIATION	-
TEMPERATURE HEAT-UP RATE	-65°C to +150°C; ≤ 40min
TEMPERATURE PULL-DOWN RATE	+20°C to -60°C; ≤ 50min



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TESTA_e TEMPERATURE SHOCK TS120

2 ZONES TEMPERATURE SHOCK CHAMBER

NORMINAL INTERIOR VOLUME (L)		About 120
TEST SYSTEM		2 zones basket moving up-and-down driven by a motor and a screw
HIGH TEMP. ZONE	TEMPERATURE RANGE	+60°C - 220°C/ (20~85) °C
	TEMPERATURE HEAT-UP RATE	≥ 14°C/ min
LOW TEMP. ZONE	TEMPERATURE RANGE	-80°C - +70°C
	TEMPERATURE HEAT-UP RATE	≥ 2°C/ min
	TEMPERATURE PULL-DOWN RATE	≥ 5°C/ min

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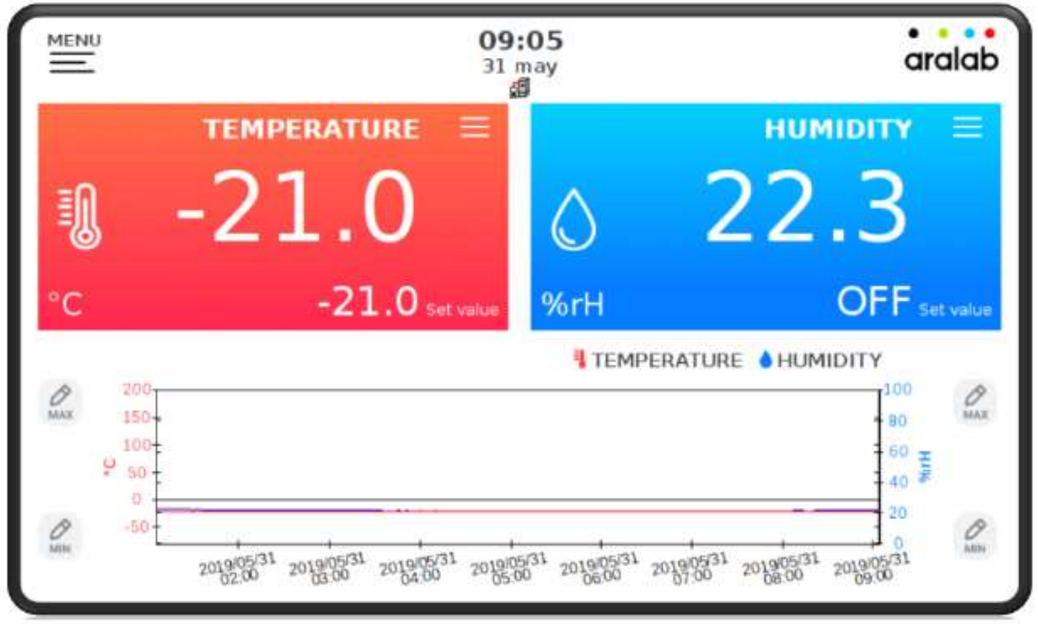
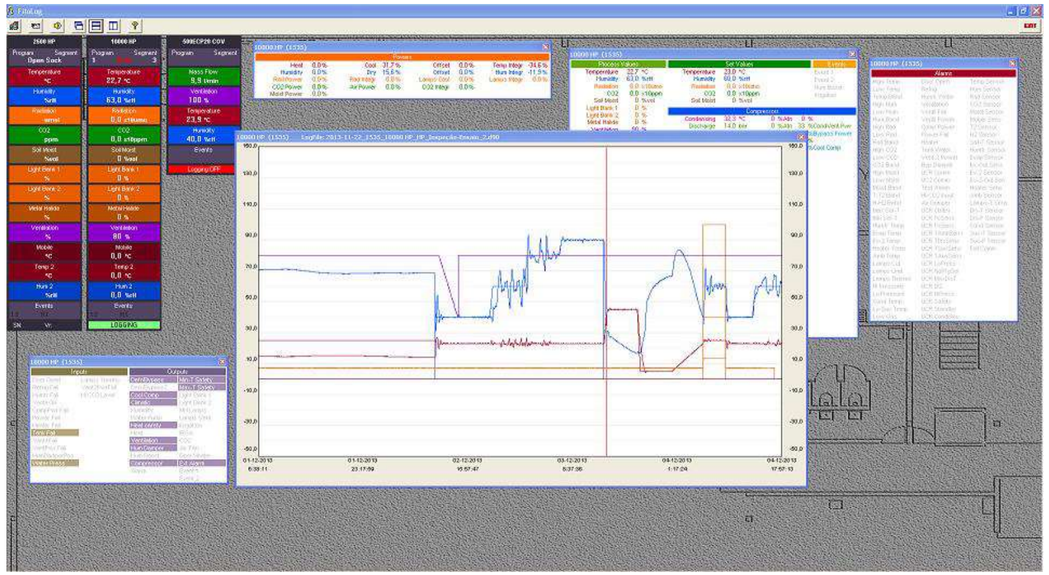
CLIMAPLUS AND FITOLOG®

PROPRIETARY CONTROLLERS AND SOFTWARE





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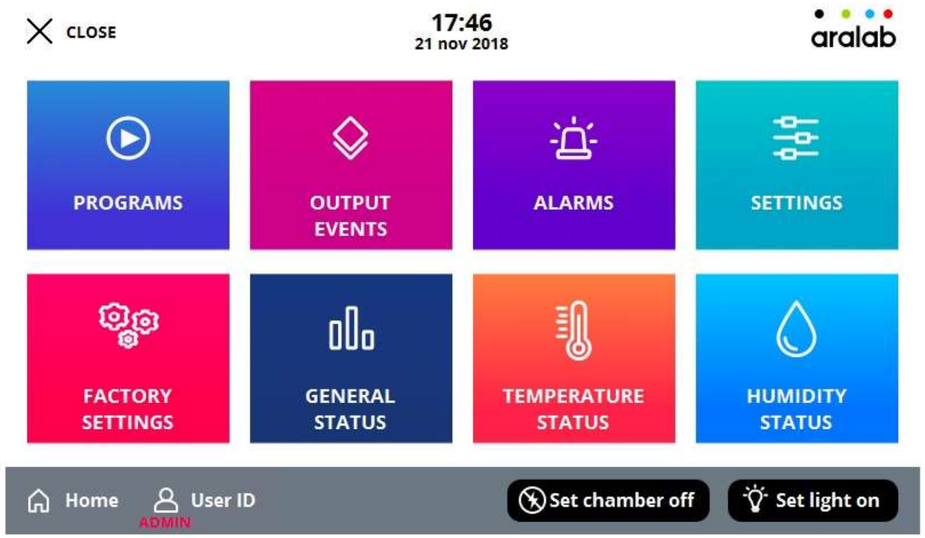
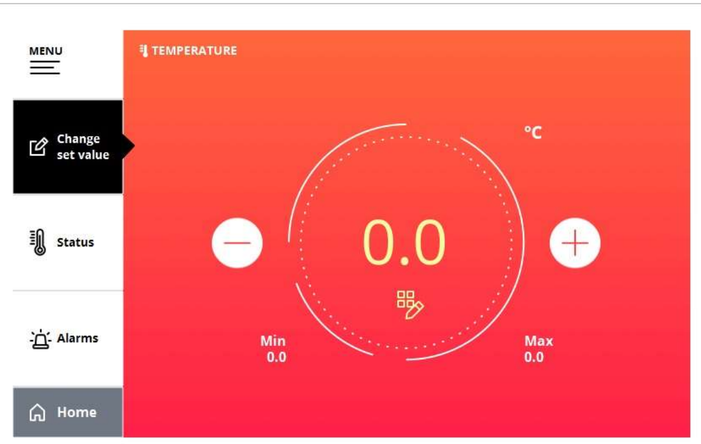
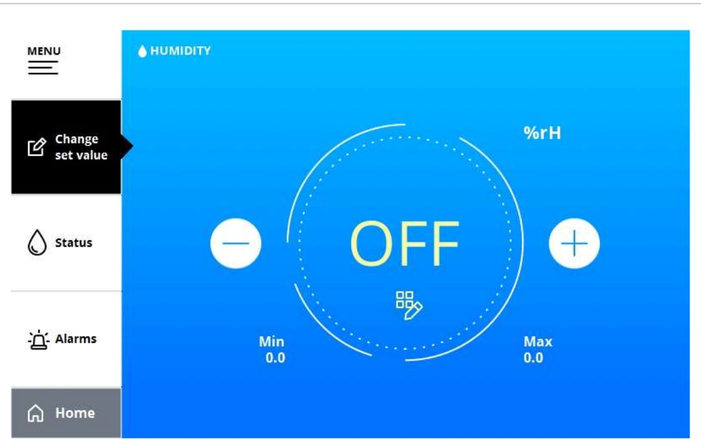
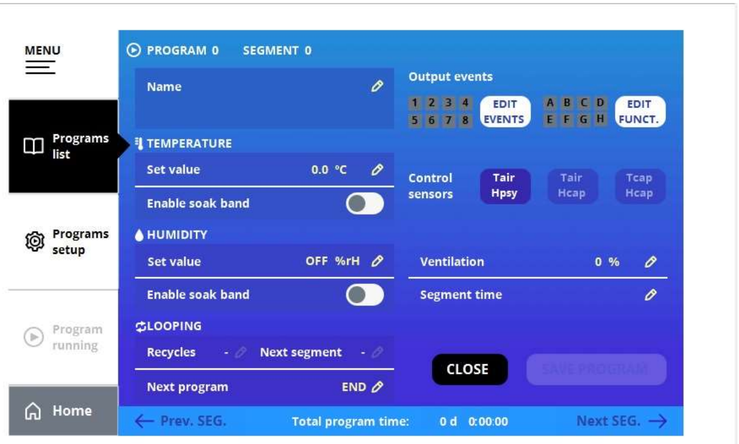
CLIMAPLUS HMI CONTROLLER



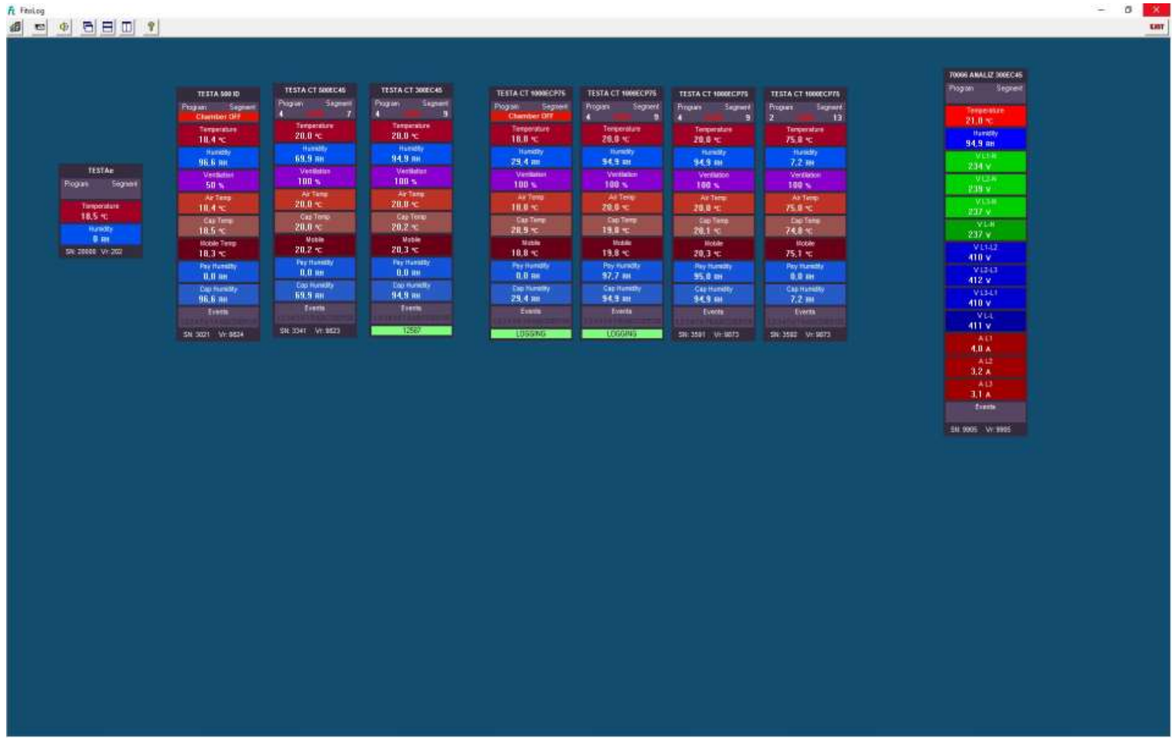
- Capability for creating 50 programs of 50 segments each
- Internal non volatile memory for storing test data
- Automatic restart of tests due to power failure, without losing data and restarting test where it was interrupted
- Real-time monitoring of all functions and control of equipment.
- Manage control settings via MODBUS/TCP
- Possibility of programming a delay of the beginning of test
- Monitoring and recording of all alarms
- Possibility of performing events by external commands
- Several outputs for connecting computers or other devices
- Alarms management
- Graphic representation of the tests and conditions
- Remote access through VNC server
- Possibility of running computer test programs and export them to the controller

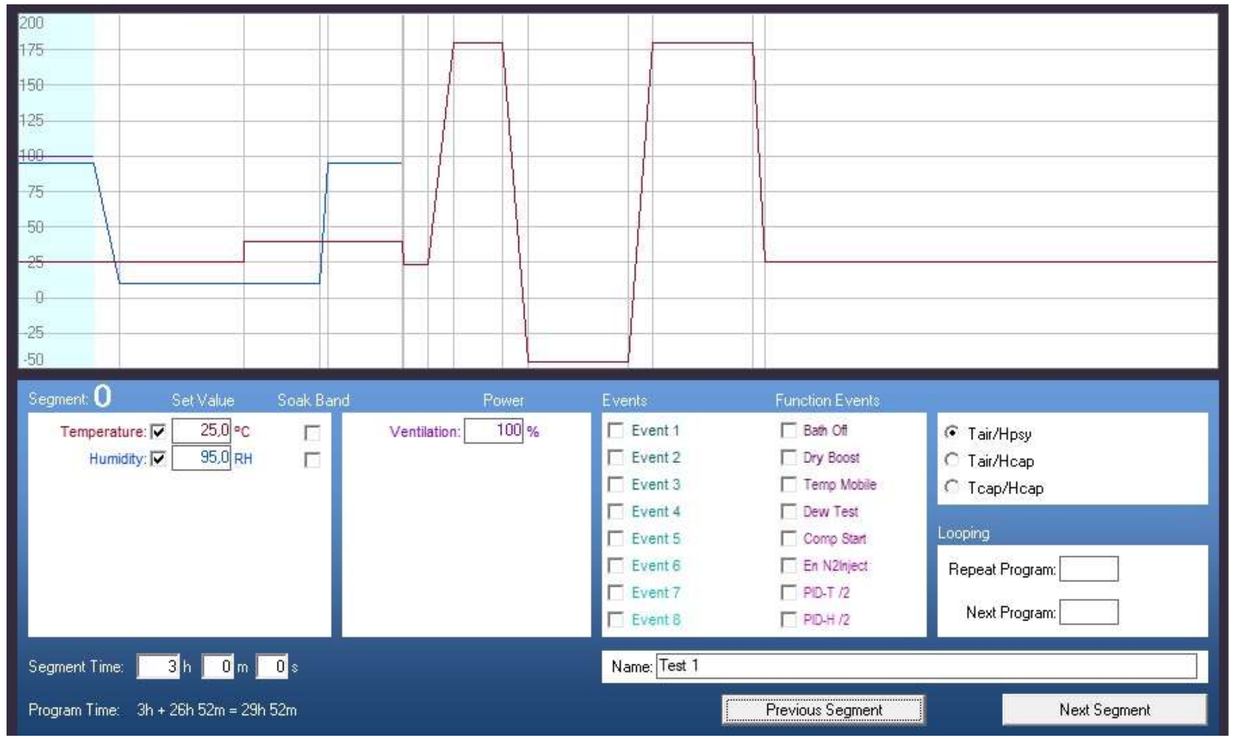






FITOLOG





FitoLog and FitoLogView : Records and displays in real time all data and details related to the set-points, running variables and equipment behaviour. It also retrieves information about the active components of the chamber, running processes, errors, alarms and allows the configuration of periodic or alarm triggered remote notifications (by email or SMS, depending on existing connections and accessories).

FitoProgram: This application simplifies the creation of programs and their integration on the chamber ClimaPlus controller. Easily create environments that simulate your testing environment and safely send the programs to any Aralab chamber.

Testing secured with alarms, notifications, fast diagnostics and prompt troubleshooting: With FitoLog it is possible to gather data from each of the chambers systems, which makes it a very useful tool to diagnose any necessary maintenance. This tool works as the “black box” of the equipment, giving Aralab technicians the necessary data to remotely carry out a fast and efficient diagnostic. All that is needed is a FitoLog file.

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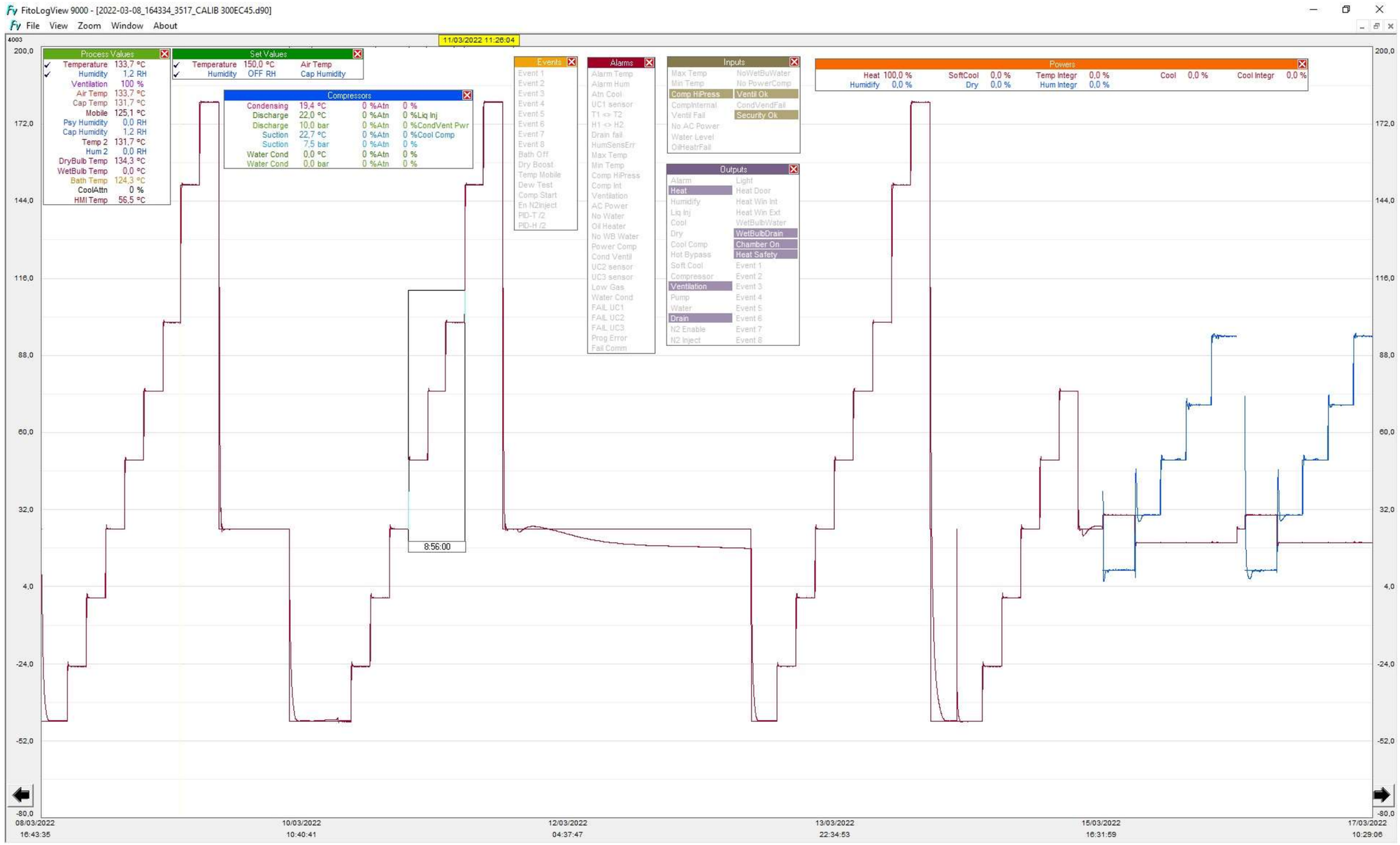
FITOLOG


FitoLogView 9000 - [2022-03-08_164334_3517_CALIB 300EC45.d90]
File View Zoom Window About
11/03/2022 11:26:04
Process Values
Temperature 133,7 °C
Humidity 1,2 RH
Ventilation 100 %
Air Temp 133,7 °C
Cap Temp 131,7 °C
Mobile 125,1 °C
Psy Humidity 0,0 RH
Cap Humidity 1,2 RH
Temp 2 131,7 °C
Hum 2 0,0 RH
DryBulb Temp 134,3 °C
WetBulb Temp 0,0 °C
Bath Temp 124,3 °C
CoolAttn 0 %
HMI Temp 56,5 °C
Set Values
Temperature 150,0 °C Air Temp
Humidity OFF RH Cap Humidity
Compressors
Condensing 19,4 °C 0 %Atn 0 %
Discharge 22,0 °C 0 %Atn 0 %Liq Inj
Discharge 10,0 bar 0 %Atn 0 %CondVent Pwr
Suction 22,7 °C 0 %Atn 0 %Cool Comp
Suction 7,5 bar 0 %Atn 0 %
Water Cond 0,0 °C 0 %Atn 0 %
Water Cond 0,0 bar 0 %Atn 0 %
Events
Event 1
Event 2
Event 3
Event 4
Event 5
Event 6
Event 7
Event 8
Bath Off
Dry Boost
Temp Mobile
Dew Test
Comp Start
En N2Inject
PID-T /2
PID-H /2
Alarms
Alarm Temp
Alarm Hum
Atn Cool
UC1 sensor
T1 <> T2
H1 <> H2
Drain fail
HumSensErr
Max Temp
Min Temp
Comp HiPress
Comp Int
Ventilation
AC Power
No Water
Oil Heater
No WB Water
Power Comp
Cond Ventil
UC2 sensor
UC3 sensor
Low Gas
Water Cond
FAIL UC1
FAIL UC2
FAIL UC3
Prog Error
Fail Comm
Inputs
Max Temp NoWetBuWater
Min Temp No PowerComp
Comp HiPress Ventil Ok
CompInternal CondVendFail
Ventil Fail Security Ok
No AC Power
Water Level
OilHeatrFail
Outputs
Alarm Light
Heat Heat Door
Humidify Heat Win Int
Liq Inj Heat Win Ext
Cool WetBulbWater
Dry WetBulbDrain
Cool Comp Chamber On
Hot Bypass Heat Safety
Soft Cool Event 1
Compressor Event 2
Ventilation Event 3
Pump Event 4
Water Event 5
Drain Event 6
N2 Enable Event 7
N2 Inject Event 8
Powers
Heat 100,0 % SoftCool 0,0 % Temp Integr 0,0 % Cool 0,0 % Cool Integr 0,0 %
Humidify 0,0 % Dry 0,0 % Hum Integr 0,0 %
200,0
172,0
144,0
116,0
88,0
60,0
32,0
4,0
-24,0
-52,0
-80,0
8:56:00
08/03/2022 16:43:35
10/03/2022 10:40:41
12/03/2022 04:37:47
13/03/2022 22:34:53
15/03/2022 16:31:59
17/03/2022 10:29:06

FITOLOG

Notify users when an alarm occurs or automatically send log files with a given periodicity to store data in a remote location.

TESTING

OTHER TESTING CHAMBERS

PSYCHROMETRIC TEST ROOMS FOR AIR CONDITIONERS, GAS BOILERS AND HEAT PUMPS

WALK-IN ROOMS FOR TESTING ACCORDING TO ISO 14511

ISO 13253 | ISO 5151
DIN EN 14825 | DIN EN 16147
JIS B 8615-1
ASHRAE 41.1 | ASHRAE 41.2
ASHRAE 41.3 | ASHRAE 41.6

INDOOR ROOM	
TEMPERATURE	+5°C to +45°C
RH RANGE	20% to 90% RH
TEMPERATURE UNIFORMITY	± 2,0°c
HUMIDITY UNIFORMITY	± 2 % RH

OUTDOOR ROOM	
TEMPERATURE	-30°C to +60°C
RH RANGE	20% to 90% RH
TEMPERATURE UNIFORMITY	± 2,0°c
HUMIDITY UNIFORMITY	± 2 % RH

Click here to see Highlights movie

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TESTACAL

ENVIRONMENTAL CHAMBER FOR METROLOGY AND CALIBRATIONS

300 Liter Reach-in chamber.

Highly accurate and uniform temperature and humidity control

Temperature uniformity		
in Space @ low temp. point	°C	± 0,5
in Space @ 0°C	°C	± 0,50
in Space @ +25°C	°C	± 0,20
in Space @ +50°C	°C	± 0,30
in Space @ +75°C	°C	± 0,60
in Space @ high temp point	°C	± 1,5

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BATTERY TESTING CHAMBER - EUCAR

REACH-IN CHAMBER
TESTA 500 BT

EUCAR HAZARD LEVEL PROTECTIONS

HAZARD LEVEL 0-3	HAZARD LEVEL 4	HAZARD LEVEL 5	HAZARD LEVEL 6
			
Status indicator	Mechanical Door Lock	Fire extinguishing	Permanent gas inertization with nitrogen or argon. O_2 measurement
			
Emergency Stop	Reversible pressure release	Fire detection w/ CO Sensor	Gas measurement H?, HF, O?, CO?, HC
			
Security Door lock	Especial entry port	ATEX Extration / renovation	Explosion Pressure relief

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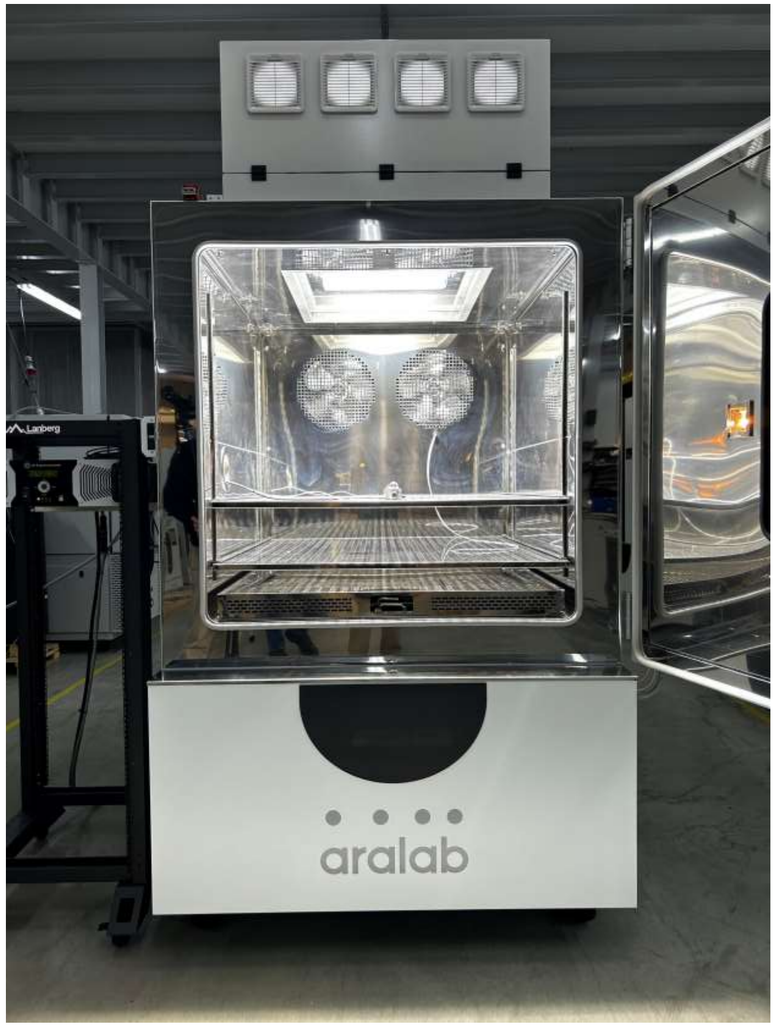
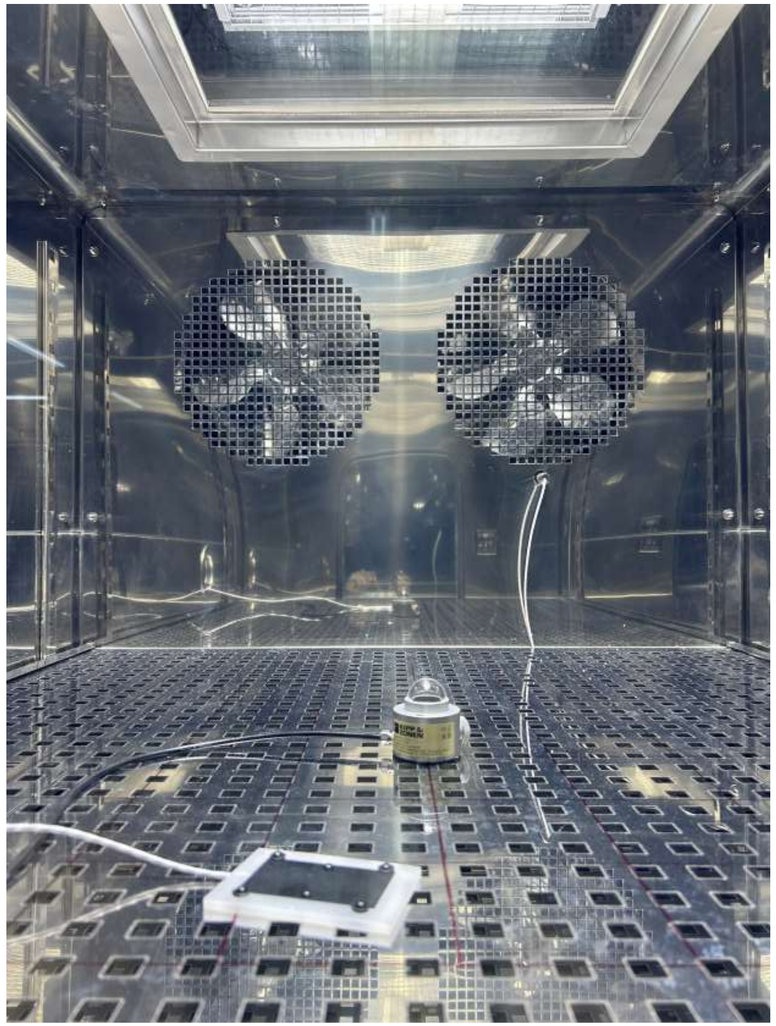
SOLAR AND UV RADIATION SIMULATION CHAMBER

ENVIRONMENTAL AND RADIATION SIMULATION

TESTA 1.000 WITH RADIATION SIMULATION MODULE





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COLD BEND TESTING OF CABLES AND WIRES

REACH-IN CHAMBERS
TESTA 300 and 500 CB

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TESTING

SOME EXAMPLES OF SPECIAL OR ‘TURN-KEY’ PROJECTS

COMBINED VIBRATION AND TEMPERATURE/ CLIMATIC TESTING

INTEGRATION WITH HORIZONTAL, VERTICAL OR MULTIAXIAL SHAKERS

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COMBINED VIBRATION AND TEMPERATURE/ CLIMATIC TESTING

INTEGRATION WITH HORIZONTAL, VERTICAL OR MULTIAXIAL SHAKERS

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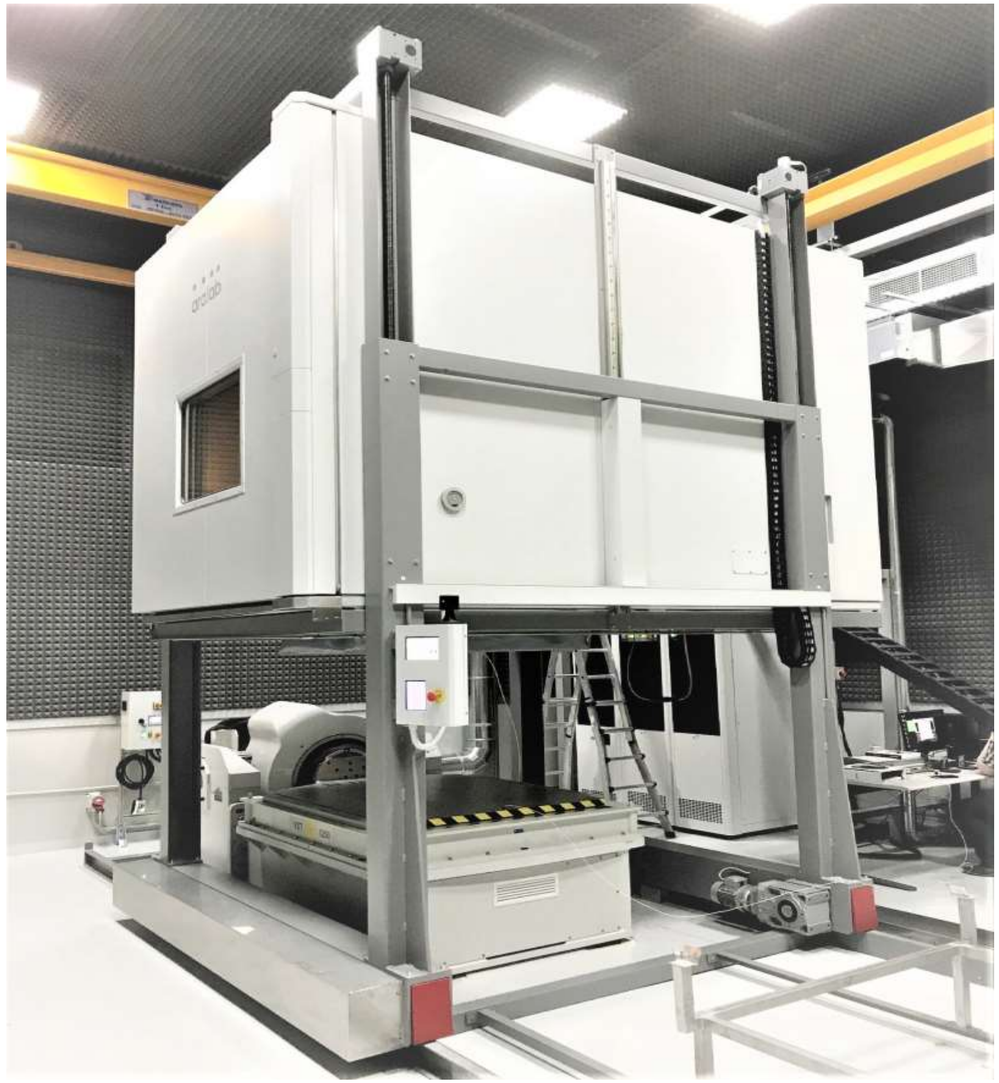
VIBRATION AND CLIMATIC TESTING IN ‘MULTI-POSITION’ PLATFORM, WITH HORIZONTAL, VERTICAL OR MULTI-AXIAL



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SOLAR PANELS TESTING CHAMBERS

REACH-IN AND WALK-IN CHAMBERS FOR SOLAR PHOTOVOLTAIC TESTING STANDARDS

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CORROSION GAS TESTING

WALK-IN CHAMBERS FOR TESTING NOXIOUS GASES

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TESTING OF REFRIGERATED DISPLAY CABINETS

ENVIRONMENTAL TESTING ROOMS

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ENVIRONMENTAL TESTING ‘DRIVE-IN’ CHAMBERS

AUTOMOTIVE
ENVIRONMENTAL SIMULATION
DRIVE-IN CHAMBERS

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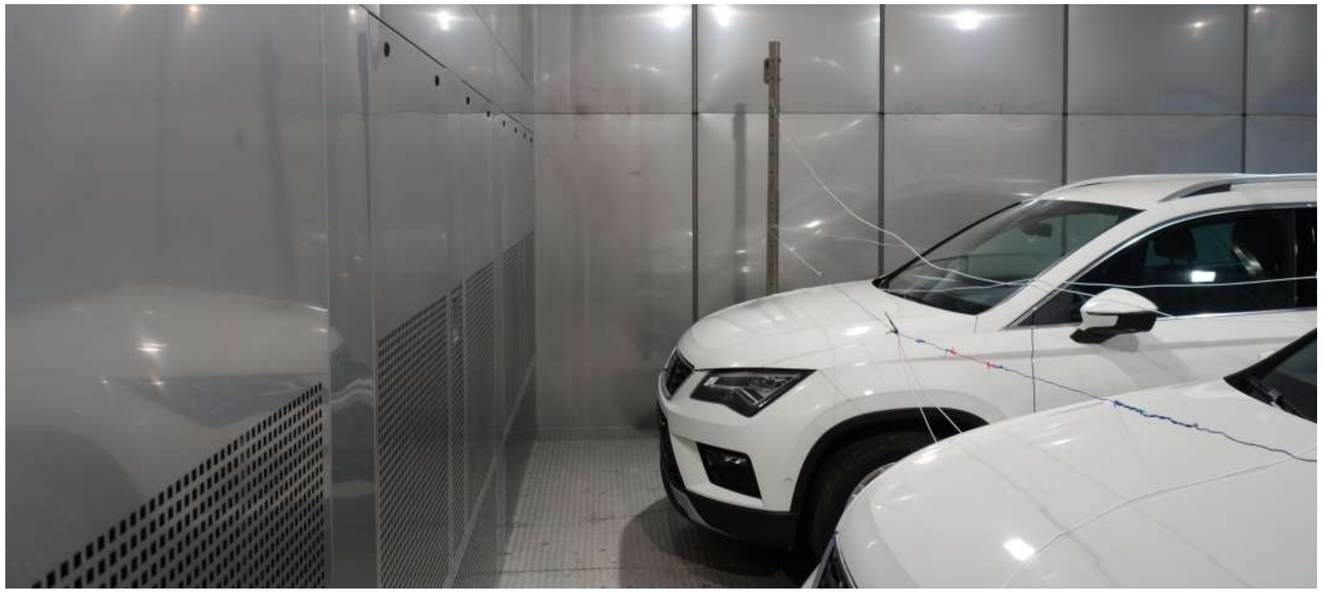
ENVIRONMENTAL TESTING ‘DRIVE-IN’ CHAMBERS

AUTOMOTIVE
ENVIRONMENTAL SIMULATION
DRIVE-IN CHAMBERS



COMBINED VIBRATION AND TEMPERATURE/ CLIMATIC TESTING

INTEGRATION WITH HORIZONTAL, VERTICAL OR MULTIAXIAL SHAKERS

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SUN RADIATION AND TEMPERATURE TESTING

200m³ DRIVE-IN CHAMBER

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CUSTOM ENVIRONMENTAL TEST CHAMBERS

TURN-KEY CHAMBERS WITH BEPSOKE PERFORMANCES AND DIMENSIONS

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THANK YOU FOR YOUR TIME!

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YOUR OWN CLIMATE
OUR MAIN GOAL