

Fitoclima Walk-In Bio chambers

Walk-In chambers designed for Plant Growth, Tissue Culture, Seed storage or cultivation and other Biological Research applications



Aralab

ARALAB is a company specialized in designing, developing, manufacturing and servicing of high quality Climatic Chambers.

For more than 25 years we have been perfecting ways to create and control temperature, humidity, light and many other environmental conditions.

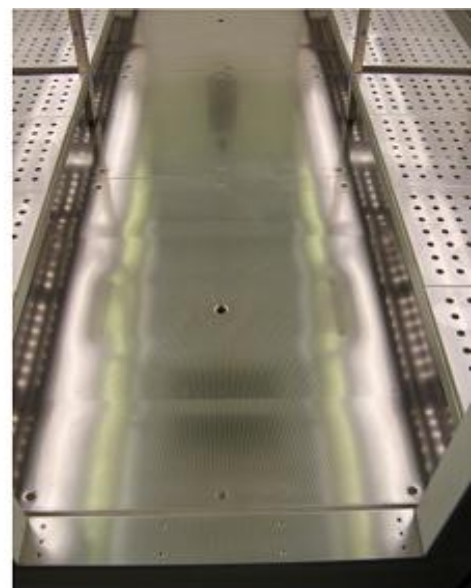
Only the highest quality components are used to manufacture our chambers so customers can have the best equipment for their research and testing purposes.

Aralab chambers. Your own climate.



Key Features:

- Wide performance range, enabling greater control of climatic conditions
- Possibility to program 32 different night / day cycles with different dawn / dusk segments each
- Flexible lighting options for a uniform intensity and optimal plant growth
- Flexible shelving options
- Optimal internal thermodynamics to ensure uniformity of climatic conditions
- Nonpolluting construction and cooling
- Equipped with advanced ClimaPlus 500 controller



Technical Specifications

Technical highlights for FitoClima EH chambers	
Temperature Range ⁽¹⁾	
Lights ON	+5°C to +45°C
Lights OFF	0°C to +45°C
Precision	± 0,5 °C
Fluctuation	± 0,5 °C
Uniformity	± 1,0 °C
Humidity Range	
Lights ON	45% to 80% RH
Lights OFF	40% to 90% RH
Precision	± 1 % RH
Fluctuation	± 2 % RH
Uniformity	± 2 % RH
Lights ⁽²⁾	Layers with 4/8 tubular 58W Fluorescent Lamps 250/400 µE - m2s 25°C - 15 cm from lamps
Electrical Supply	3/N/PE AC 400V ± 10%; 50Hz

(1) Temperature range upgrade (0° to 60°) available

(2) Lights with a different spectrum are available on request

Shelving and Growth Area

5.000 liters chamber	
Shelves	6 Shelves with 1.500 x 500 mm
Total Growth Area	Up to 4,5 m ²
Internal volume	5.000 liters

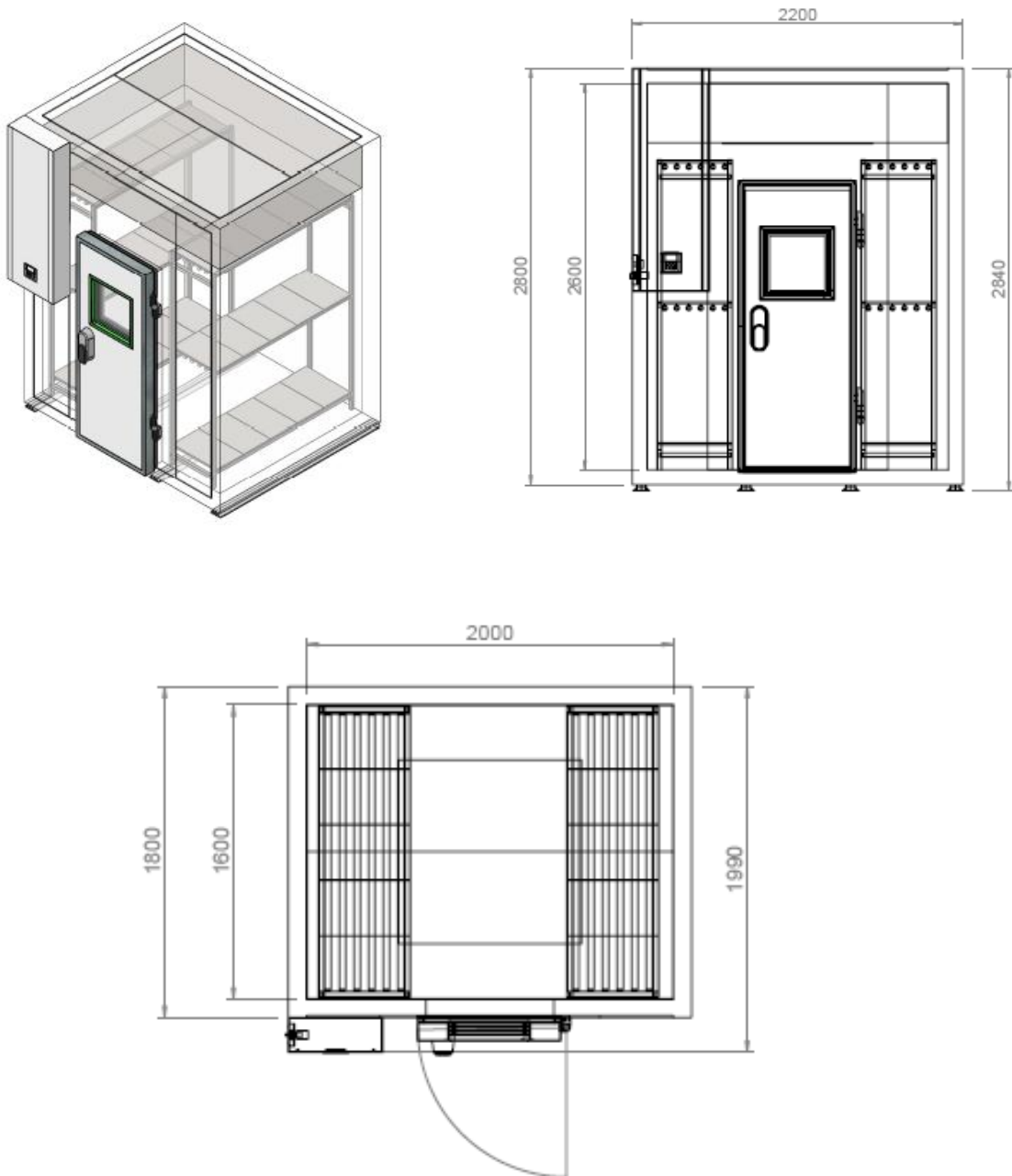
10.000 liters chamber	
Shelves	12 Shelves with 1.500 x 500 mm
Total Growth Area	Up to 9 m ²
Internal volume	10.000 liters

15.000 liters chamber	
Shelves	18 Shelves with 1.500 x 500 mm
Total Growth Area	Up to 14 m ²
Internal volume	15.000 liters

Dimensions may vary and be adjusted to fit customer needs

Dimensions and Technical drawings

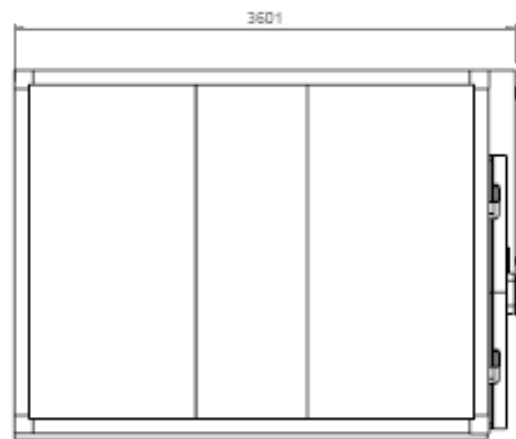
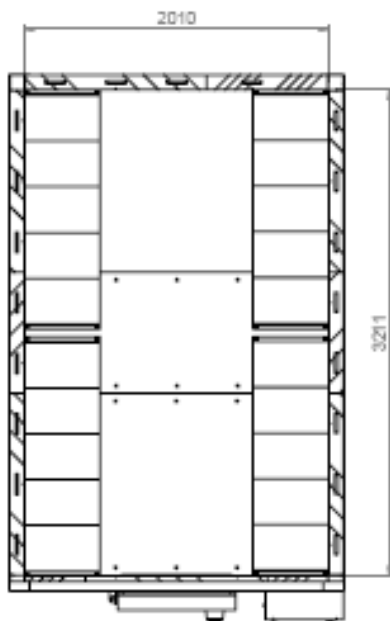
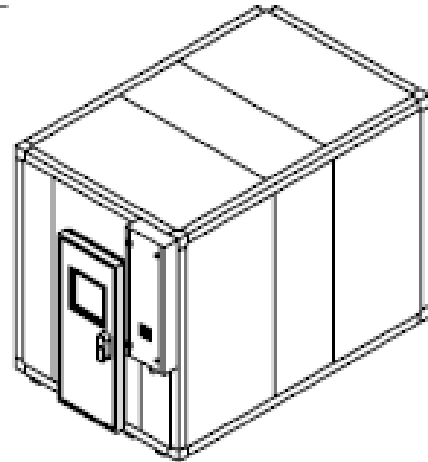
Dimensions 5.000 EH			
	Width	Depth	Height
Exterior	2.210 mm	2.000 mm	2.610 mm
Interior	2.010 mm	1.600 mm	2.000 mm



Dimensions may vary and be adjusted to fit customer needs

Dimensions 10.000 EH

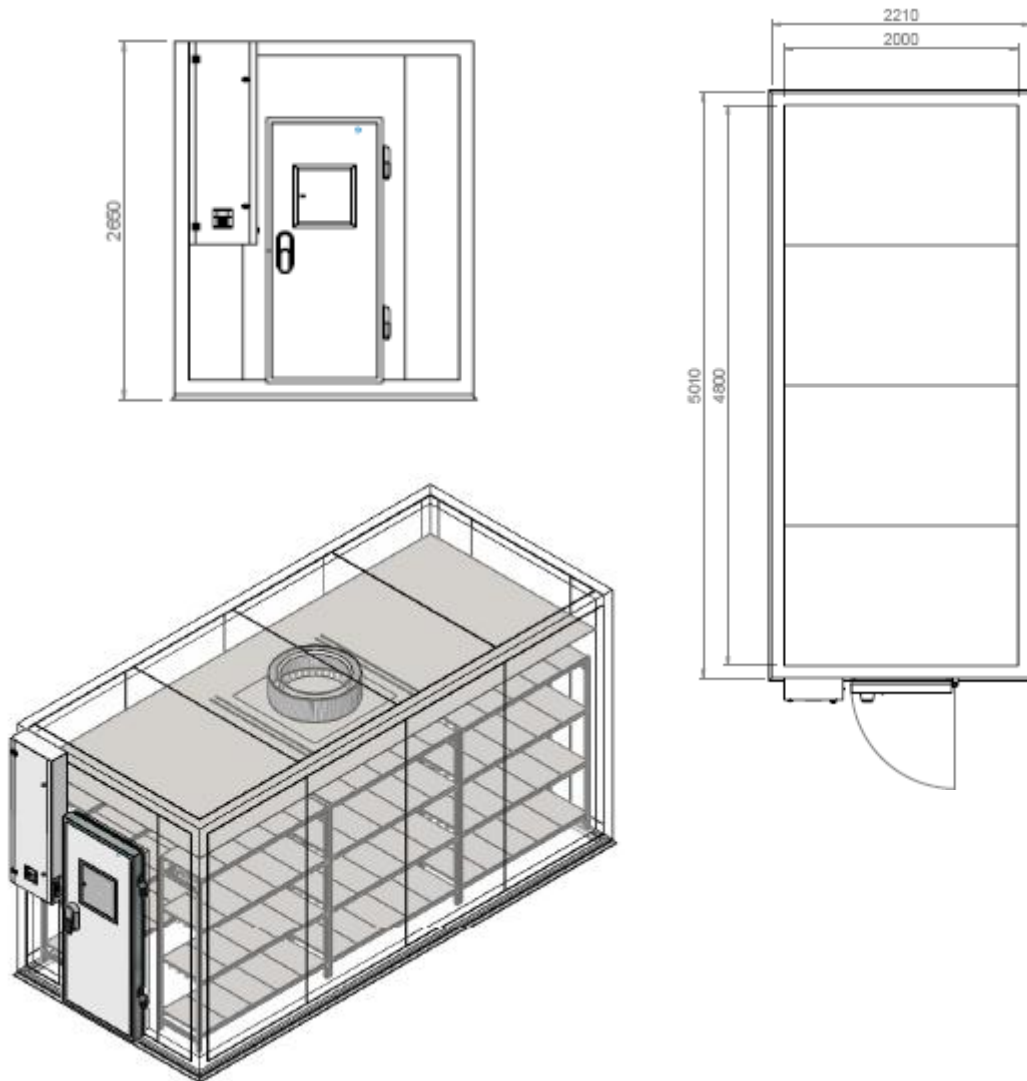
	Width	Depth	Height
Exterior	2.210 mm	3.601 mm	2.800 mm
Interior	2.010 mm	3.211 mm	2.000 mm



Dimensions may vary be adjusted to fit customer needs

Dimensions 15.000 EH

	Width	Depth	Height
Exterior	4.000 mm	3.600 mm	2.100 mm
Interior	4.200 mm	3.800 mm	2.600 mm



Dimensions may vary and be adjusted to fit customer needs

Technical description, Software and Accessories

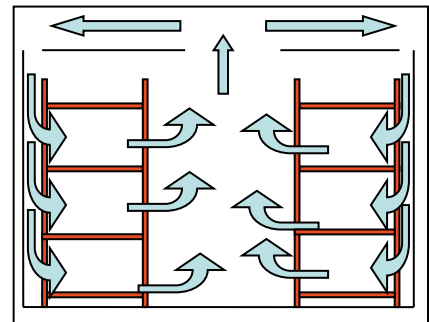
Construction

- Exterior: EN 14509 "sandwich type" polyurethane insulated panels, 80 mm thick, with galvanized steel light gray plastic finish. CFC-free.
- Floor: Anti-slide Stainless steel AISI 304 or grey textured vinyl
- Walls: Galvanized steel with white epoxy paint
- Structures and Shelves: Easy cleaning stainless steel AISI 304
- Door with double gasket, observation window with key, safety opening mechanism from the inside and opened door sensor
- 75 mm Ø port for cables and other connections



Air Flow

- Forced in horizontal and downward direction
- Horizontal laminar airflow across the shelves to assure uniformity to all growth area
- Air renovation through adjustable breathing ports



Control Panel

On the right or left side of the chamber and equipped with:

- CLIMAPLUS 500 Programmable Controller
- Safety thermostat with audible alarm
- ON/OFF Mains switch



Heating

Tubular stainless steel electric resistors

Cooling

Low noise and high efficiency, air based CFC free mechanical refrigeration by sealed compressor

Thermal Security

- Individual thermostat for maximum and minimum temperature with visual and audible alarms.
- Automatic cut off if in excessive heating or cooling

Humidity

Ultrasonic humidification system

Humidity Security

Automatic cut off in case of water failure. Audible alarms and warning on the controller.

Lighting and Shelves

- Three layers in two independent structures with 200 x 150 x 50 cm each
- For Fitoclima 5.000 EH, a total of 6 shelves with 150 x 50 cm. Total growth area 4,5 m²
- For Fitoclima 10.000 EH, a total of 12 shelves with 150 x 50 cm. Total growth area 9 m²
- Shelves with adjustable height. Several possibilities according to customer needs.
- Independent dimming function with intensity adjustment on the controller.
- Light intensity on shelves up to 300 or 600 $\mu\text{E} / \text{m}^2 / \text{s}$ at 150mm from light, depending on choice of lamps (4 or 8 tubular cool white on each shelf).



Controller

Fitoclima Bio walk-in chambers are equipped with the ClimaPlus touch-screen controller with dual microprocessor technology for controlling, monitoring and registering all data.

- Programmable user-friendly touch-screen controller
- Configuration of up to 32 test programs with 24 segments each
- Temperature, Humidity, Day / Night Cycles and additional customer functions can be easily programmed. Designed to host programs and run sequences of conditions required to each test
- Non-volatile memory
- 0,1°C temperature resolution
- 0,1% HR humidity resolution
- Managing and monitoring alarms
- Possibility of integrating external commands and devices with ClimaPlus controller
- RS232 output for connecting devices
- Password protection of controller functions



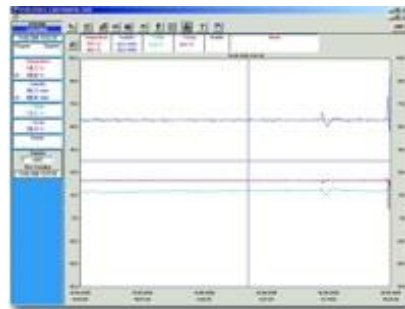
Software

STATUS	
LOGGING	
04-02-2005 14:38:10	
Program	Segment
2	RUN 0
Temperature	
25,0 °C	
SP	25,0 °C
Humidity	
60,1 %RH	
SP	60,0 %RH
Bath	
23,3 °C	
T-RHS	
25,2 °C	
Events	
.....	
Outputs	
.....V.....	
Samples	
5324	
Next Sampling	
04-02-2005 14:38:13	

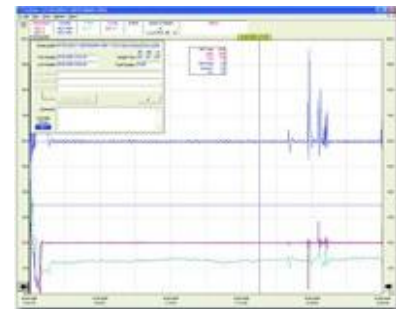
The **FitoLog** software is a set of applications designed to monitor and register data from the chambers processes variables and all testing programs.

The software consists of 3 applications: **FitoLog**, **FitoLogView** and **FitoProgram**.

FitoLog



FitoView



- **FitoLog:** Displays and records in real time all data and details of the measures and respective set-points in a file, with a pre-determined time interval. It also acquires the data of process variables, errors, alarms and allows external alerts configurations which may include Email or SMS to report the condition of the equipment or warning of alarm conditions.
- **FitoLogView:** It is a working tool to process the data acquired by FitoLog. You can view, print and export to other file types, and analyze the data in other programs (Excel, Access or others).
- **FitoProgram:** This application allows the designing of test programs and its integration on the chamber controller.

Installation Requirements

- Demineralized water with $\leq 5\mu$ Siemens conductivity and 1 to 5 bar pressure
- Electrical supply near chamber (see electrical supply specification)
- Water draining system

Optional Accessories

- Software FITOVIEW / FITOLOG
- H₂O demineralizer
- Conductivity device and connection accessories for water quality control
- Positive Pressure Unit with HEPA filter
- CO₂ controlling unit
- Different light types with different spectrum
- Auto irrigation system
- Temperature range upgrade (0° to 60°C)
- RS232 Cable for PC connection
- Other accessories available. Please consult Aralab for any specific requirement you may have.

Walk-In custom made solutions



Set of 3 Fitoclima 10.000 chambers



Set of 6 Fitoclima 25.000 chambers



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