

BIO

FITOCLIMA 600 & 1200 HP LED

PLANT GROWTH 'REACH-IN' ENVIRONMENTAL CHAMBERS
HIGH LIGHT INTENSITIES AND INCREASED ENVIRONMENTAL CONTROL





FitoClima 1200 HP LED (Valoya AP67 spectrum, suitable for general plant growth and flowering. Other spectra available)

TECHNICAL SPECIFICATIONS

TECHNICAL DATA FOR FITOCLIMA 600 & 1200 HP GROWTH CHAMBERS

 TEMPERATURE RANGE (STANDARD) ^[1]	LIGHTS ON LIGHTS OFF	+5°C to +45°C -5°C to +45°C						
 TEMPERATURE RANGE (EXTENDED) ^[2]	LIGHTS ON and OFF	- 25°C to +45°C						
 TEMPERATURE UNIFORMITY		± 1,0°C						
 HUMIDITY RANGE ^[1]	LIGHTS ON LIGHTS OFF	40 to 80% rH 40 to 95% rH						
 HUMIDITY UNIFORMITY		± 2% rH						
 GROWTH HEIGHT		Adjustable from 150mm up to 1.145mm						
 GROWTH AREA		0.33m ² per shelf (640mm x 520mm)						
 LIGHT TYPES AND INTENSITIES ^[3]	At 250mm from lights > 1.000 µmoles /m ² /s	Number of shelves: <table border="1"> <thead> <tr> <th>Light Type</th> <th>FitoClima 600</th> <th>FitoClima 1.200</th> </tr> </thead> <tbody> <tr> <td>LED. Multiple spectra available.</td> <td>1</td> <td>2</td> </tr> </tbody> </table>	Light Type	FitoClima 600	FitoClima 1.200	LED. Multiple spectra available.	1	2
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 AIRFLOW		Uniform 0,2 m/s across the shelves. Adjustable by setpoint % at the controller interface						
 INTERNAL VOLUMES		600 and 1.200 liters						



INSTALLATION REQUIREMENTS

 WATER (FOR HUMIDITY CONTROL)	Demineralized or R.O water. 1 to 4 bar pressure and ≤ 10µ siemens conductivity
 INSTALLATION PLACE AND DRAIN	Clean and ventilated place, with a room temperature between 10°C and 26°C. Drain at floor level and near the equipment
 WATER (FOR 'EXTENDED TEMPERATURE')	Water cooled refrigeration system requires: up to 100 l/h flow, at 18°C, with 3-6 bar inlet pressure and >2,5 bar differential
 ELECTRICAL CONNECTION	1PH AC 230V ±10% 50Hz 5 to 12A (depending on model)

[1] Tests ran with empty chamber. Humidity range/performance can be affected by the combination of light intensities, temperature and plants evapotranspiration

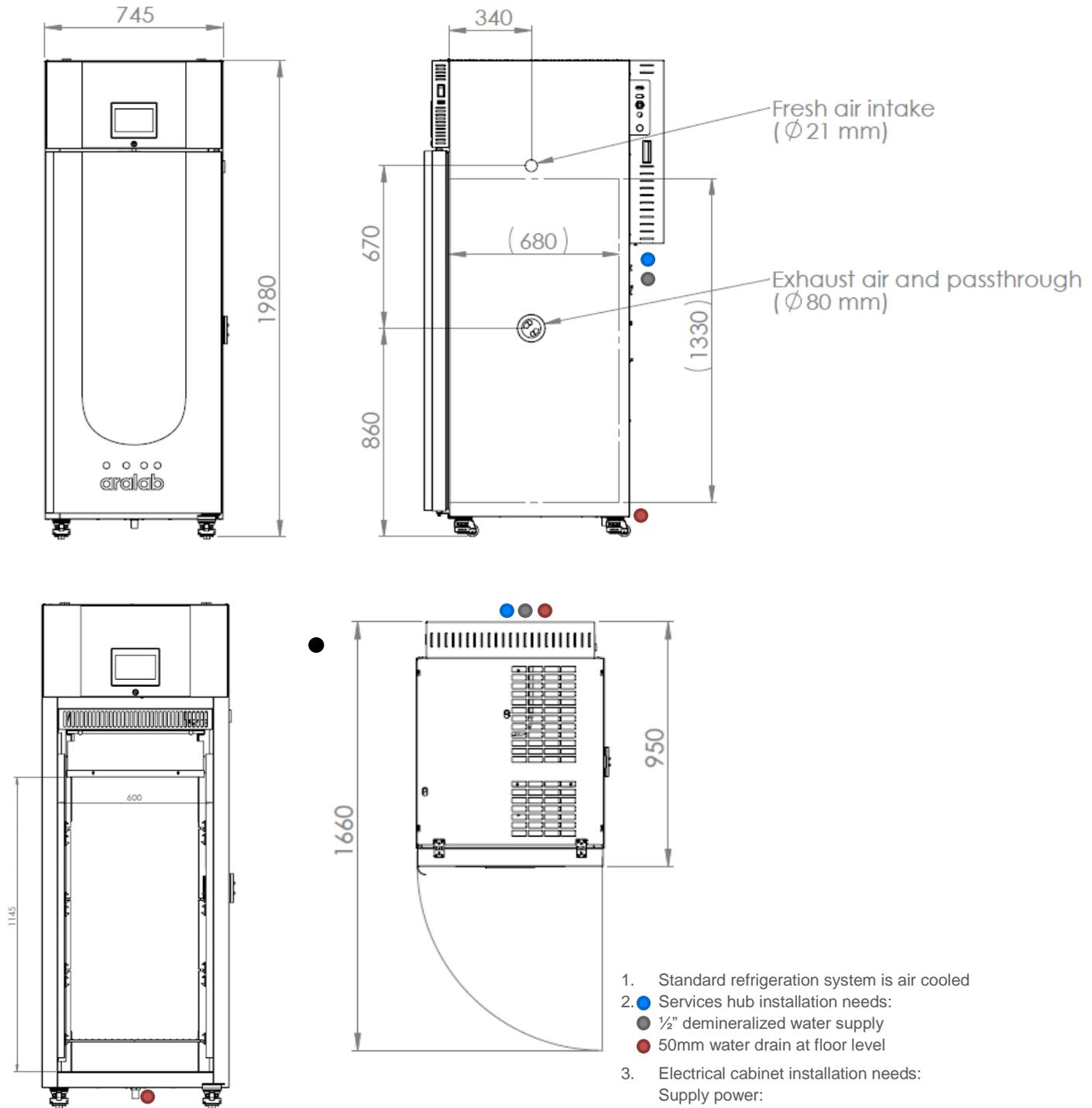
[2] 'Extended' Temperature Range down to -25°C requires connection to a water-cooled refrigeration system. For 'Standard' Temperature Range, the chambers refrigeration system is air cooled.

[3] Different LED colours/wavelengths might result in different light intensities. Please consult Aralab with specific requirements

DIMENSIONS AND DRAWINGS

FITOCLIMA 600 HP

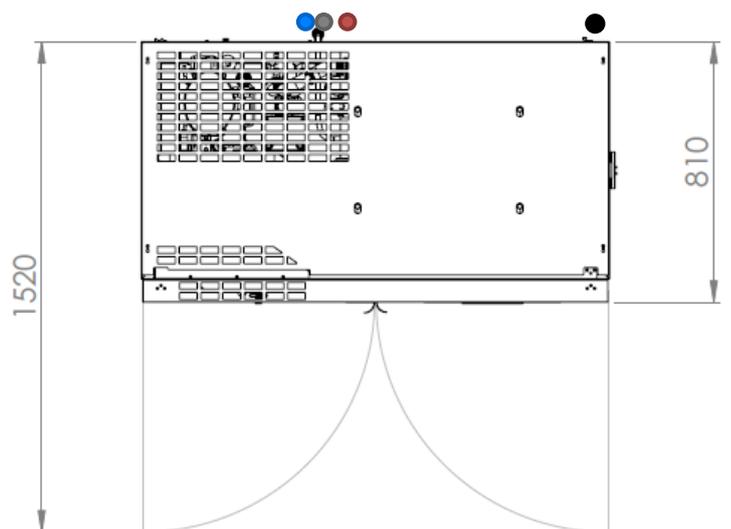
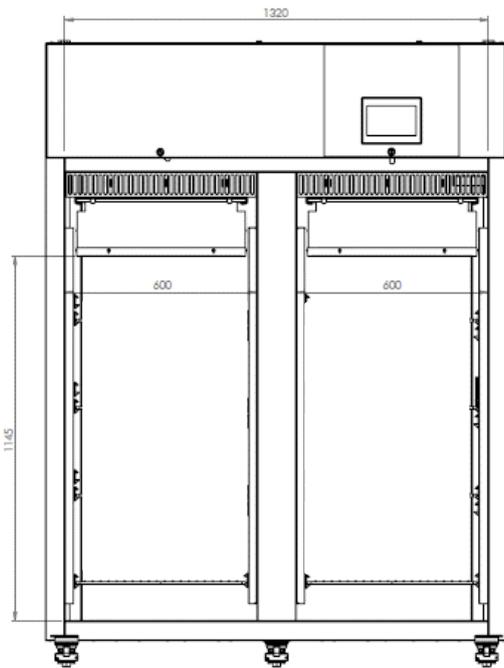
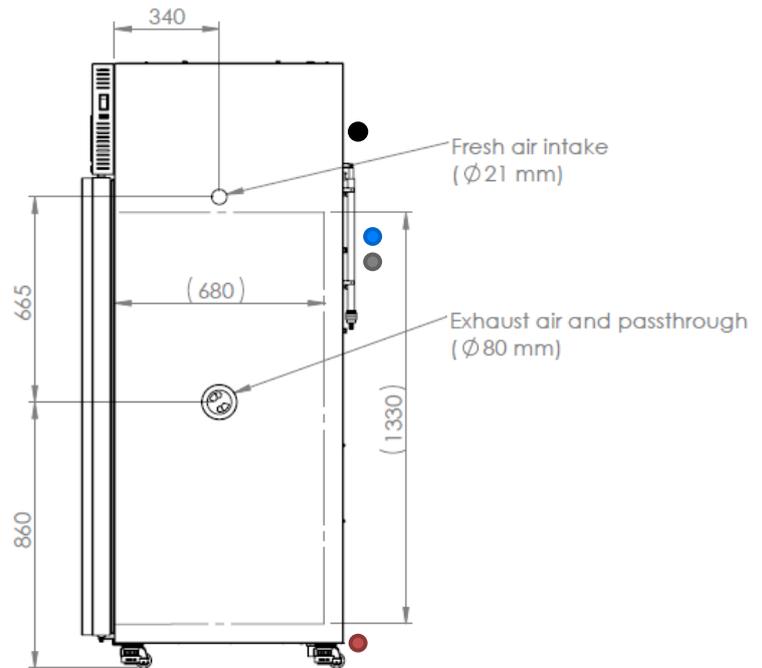
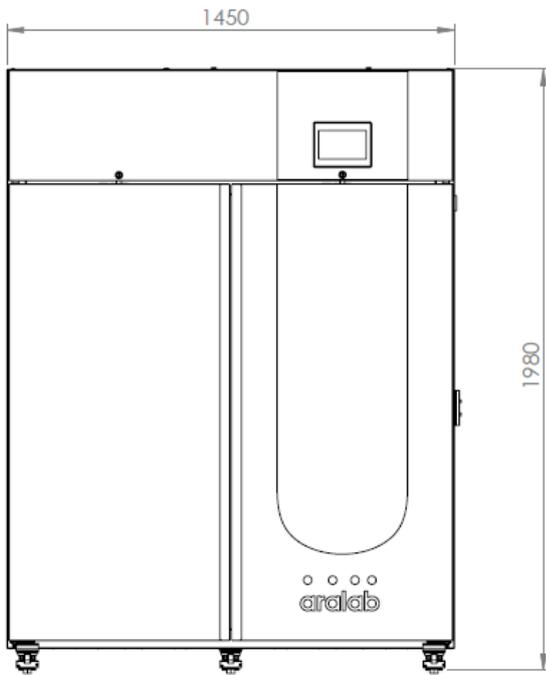
 EXTERNAL DIMENSIONS (HxWxD) (mm)	1.980 x 745 x 950
 INTERNAL DIMENSIONS (HxWxD) (mm)	1.145 x 600 x 680



1. Standard refrigeration system is air cooled
2.  Services hub installation needs:
 -  ½" demineralized water supply
 -  50mm water drain at floor level
3. Electrical cabinet installation needs:
 Supply power:
 230VAC, 50Hz, 16A / Single Phase + Neutral + Ground
 Electrical protection: Circuit breaker 16A + N with 300mA differential
 RJ45 communication port

FITOCLIMA 1.200 HP

	EXTERNAL DIMENSIONS (HxWxD) (mm)	1.980 x 1.450 x 810
	INTERNAL DIMENSIONS (HxWxD) (mm)	1.145 x 1.320 x 680



- Standard refrigeration system is air cooled
- Services hub installation needs:
 - Services hub installation needs:
 - 1/2" demineralized water supply
 - 50mm water drain at floor level
- Electrical cabinet installation needs:
 - Supply power: 230VAC, 50Hz, 16A / Single Phase + Neutral + Ground
 - Electrical protection: Circuit breaker 16A + N with 300mA differential
 - RJ45 communication port

EQUIPMENT DESCRIPTION

CONSTRUCTION & CONTROL

- Multi-color 7-inch touch-screen ClimaPlus© controller
- Lights installed in self-contained lamp bank with heat extraction system
- Open door alarm with configurable time-out function
- Free slots for connecting and integrating external devices (CO2 control, Automatic Irrigation/Aeration, Shakers or other) with the ClimaPlus controller
- Accessible technical compartment for faster maintenance procedures
- Highly resistant stainless-steel interior
- Polyurethane insulation
- Exterior zinc plated steel and gray epoxy paint
- Pivoting door(s) with spring lock, magnetic gasket and safety lock(s)
- 4 and 5 built-in casters brakes for effortless mobility and installation
- 80mm Ø side entry port

ENVIRONMENTAL CONTROL

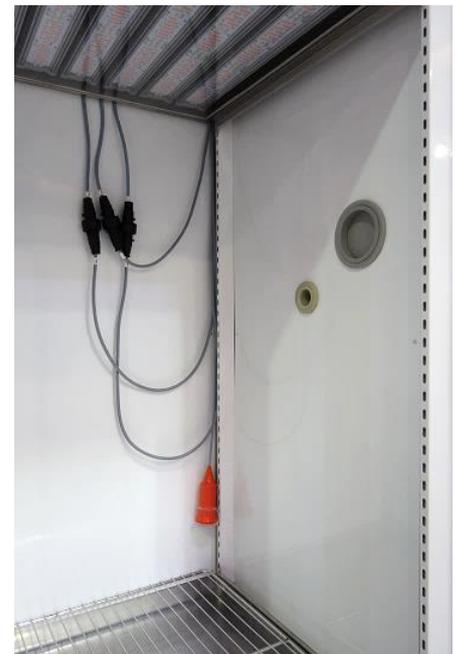
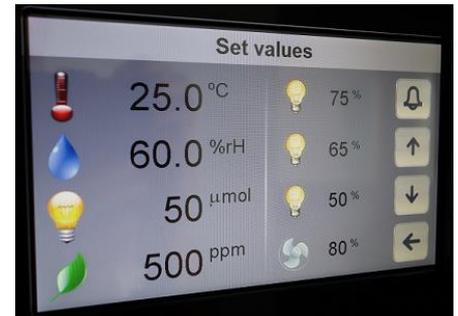
- Air-cooled, CFC free, mechanical refrigeration by hermetic compressor
- Dual heating technology with hot gas by-pass and stainless steel electric heaters
- Humidification by ultrasonic generator with automatic water level control and self-cleaning function
- Dehumidification by condensation on the cooling system evaporator
- PT100 RTD temperature sensor and capacitive humidity sensor

AIR FLOW

- Dynamic airflow with EC (variable) blower
- Air renovation through adjustable lateral port-holes
- Uniform air velocity of 0.2 meters per second across shelves
- Airflow speed adjustable on the ClimaPlus© controller

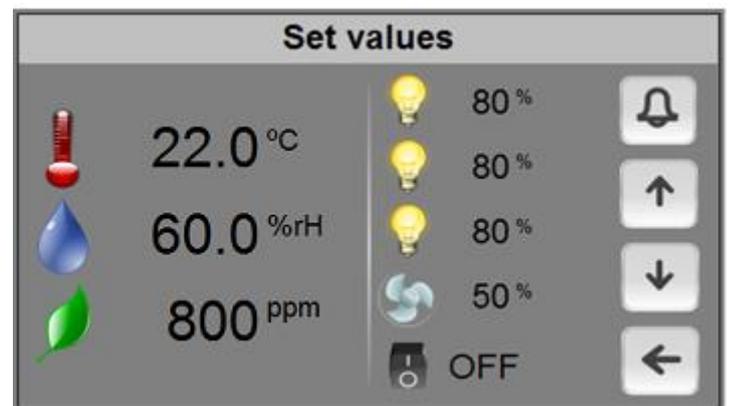
RESEARCH PROTECTION AND AUTOMATIC DIAGNOSTICS

- Independent thermostats for maximum and minimum temperature limits
- Automatic cut-off function, in case of excessive heating or cooling
- Configurable maximum and minimum temperature and humidity limits
- Visual and audible alarms for temperature and humidity limits
- New synoptic diagram function: a self-diagnostics tool that checks all active components of the system allowing for faster procedures and minimizing any possible downtimes



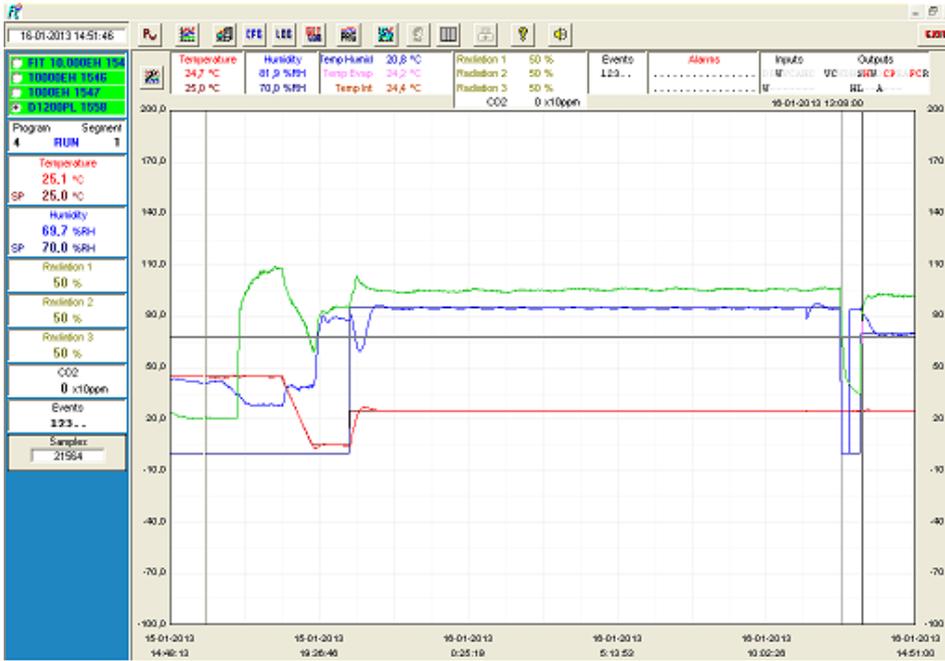
CLIMAPLUS CONTROLLER

- Programmable Logic Controller exclusively developed by Aralab for FitoClima chambers
- Easy to use touch-screen interface
- 190mm x 150mm multicolor display
- Controls every environmental variable available for any specific FitoClima model (Temperature, Humidity, Lights, Airflow, CO2 and connected external devices)
- Friendly program editor for creating 32 programs of 24 segments each, allowing the design of complex and comprehensive climatic simulation programs
- Password protection of the controller functions
- Content and research protection feature, with configurable High and Low Temperature and Humidity alarms and automatic notifications
- Managing, monitoring and recording of all alarms
- Non-volatile memory, allowing the automatic restart of previously defined set-points or on-going programs due to power failure, without losing data
- Real-time monitoring of all the functions and active components of the equipment, allowing for a fast and accurate diagnostic in case of malfunction
- Possibility to control and program events by external commands and with external devices
- Graphical view of programs and climatic variables
- Ethernet port for connecting logging computer to the chamber controller
- ClimaPlus controller functions also available at the PC/Laptop with the FitoLog software pack

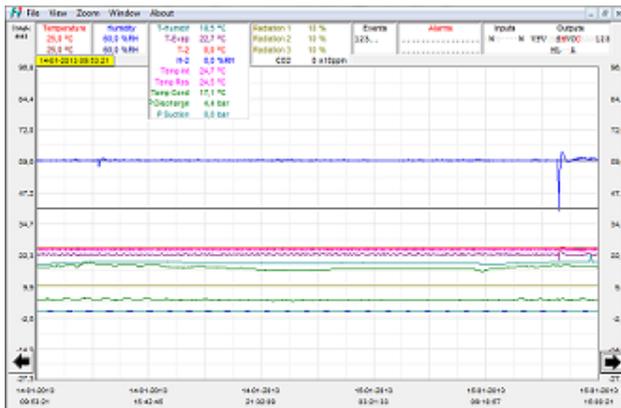


FITOLOG SOFTWARE

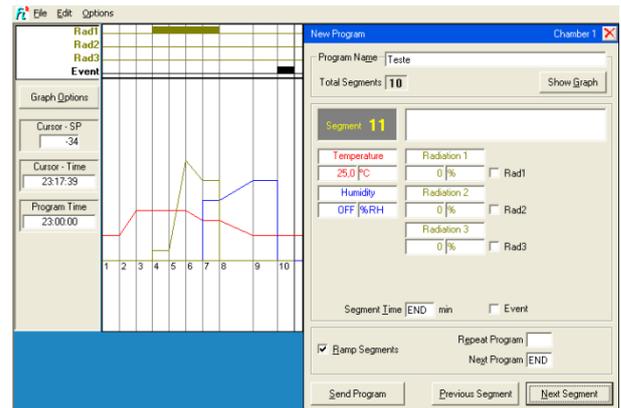
The FitoLog software pack is a set of applications designed to facilitate the managing, monitoring and recording of programs and data from the FitoClima chambers. It consists of 3 applications: **FitoLog**, **FitoLogView** and **FitoProgram**.



FitoLog: 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).



FitoLogView: It is a working tool to process the data recorded by the FitoLog program. One can view, print and export the log contents to other file types, and analyse the data in other data management software (Excel, Star Office, Access or others).

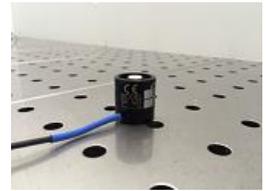


FitoProgram: This application simplifies the creation of programs and its integration on the chamber ClimaPlus controller. Up to 32 programs, each with 24 segments, can be designed and linked to create detailed environmental profiles and simulations.

Research 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.

COMMON ACCESSORIES (PLEASE CONSULT ARALAB FOR OTHER ITEMS)

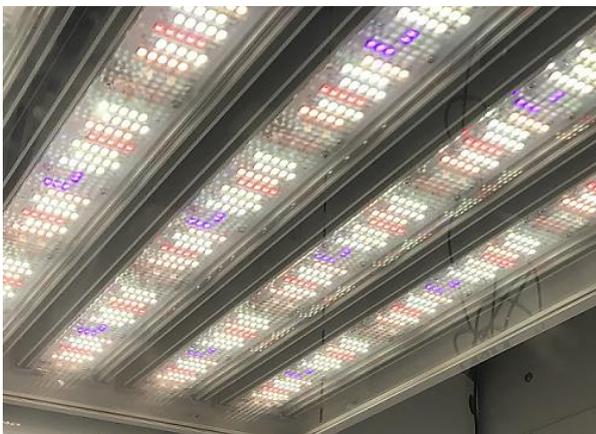
- FitoLog® software pack for PC/Laptops, enabling data monitoring, logging and managing operations directly on a computer
- Quantum light meter integrated with the controller for managing light intensities in $\mu\text{moles}/\text{m}^2\text{s}$
- LED modules with fixed spectral distribution
- LED modules with adjustable spectral distribution
- CO₂ monitor and controlling units
- CO₂ scrubber for lowering carbon dioxide below ambient concentrations
- White reflective interior
- Dew and Mist simulation
- Automatic irrigation valve
- Aeration kit for Algae Research and Hydroponic cultures
- External 20 litre water tank with electric pump and security valve
- Double glazed glass doors with or without cover lid



White 'cool-white' LEDs



General plant growth and flowering LEDs



White 'sun like' LEDs



Customized Far Red and Red spectra LEDs

Features and specifications are subject to change. Aralab continuously studies ways to further develop its products to achieve better performances and overall product quality. As a result, characteristics and specifications provided in this document may be subject to changes.

YOUR OWN CLIMATE
Our main goal

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