



# TESTING FITOCLIMA S600 / D1200 PHCI

ENVIRONMENTAL TESTING CHAMBERS FOR CURING APPLICATIONS  
(MORTAR, CEMENT, LIME AND PLASTER)

ASTM C511 Moist Cabinet



  
aralab





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

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

**Control the Environment.** Your Own Climate.



#### KEY FEATURES

- Wide environmental performance ranges, enabling greater control of climatic conditions
- Optimal internal thermodynamics to ensure uniformity of climatic conditions
- Flexible, future proof chambers, designed for numerous applications
- Easy to use and maintain
- Nonpolluting construction and cooling
- Equipped with ClimaPlus touch-screen controller
- DIN, EN, IEC, ISO, MIL, NP and UNE compliant













Certified ISO:9001 for its Quality Management System  
Certified ISO:14001 for its Environmental Management System













## TECHNICAL SPECIFICATIONS AND PERFORMANCES

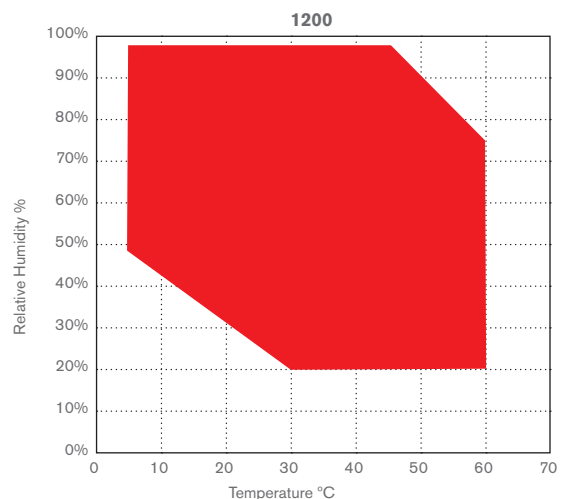
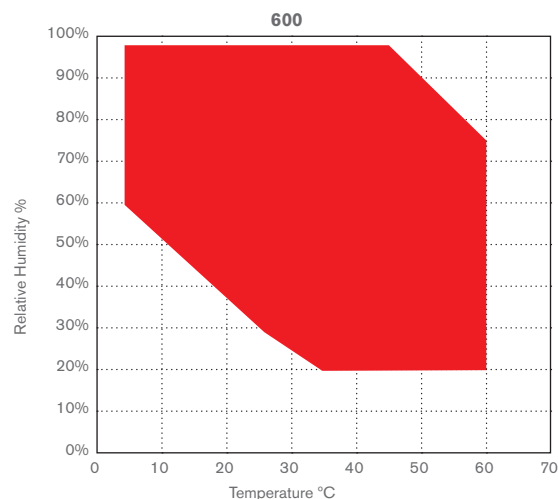
### ● ● ● ● FITOCLIMA 600 PHCI

TEMPERATURE RANGE		-5°C to 60°C
TEMPERATURE FLUCTUATION		± 0,5 °C
TEMPERATURE UNIFORMITY		± 1,0 °C
HUMIDITY RANGE		35% to 98% RH
HUMIDITY FLUCTUATION		± 2 % RH
HUMIDITY UNIFORMITY		± 2 % RH
SHELVES		4 shelves with 510mm x 640mm (up to 8 can be fitted)
WEIGHT LOAD PER SHELF (Reinforced SS shelves)		up to 40Kh weight load, evenly distributed
VOLUME		543 liters
ELECTRICAL SUPPLY		230V ± 10%; 50Hz; 5 Amp.

### ● ● ● ● FITOCLIMA 1200 PHCI

TEMPERATURE RANGE		-5°C to 60°C
TEMPERATURE FLUCTUATION		± 0,5 °C
TEMPERATURE UNIFORMITY		± 1,0 °C
HUMIDITY RANGE		35% to 98% RH
HUMIDITY FLUCTUATION		± 2 % RH
HUMIDITY UNIFORMITY		± 2 % RH
SHELVES		8 shelves with 510mm x 640mm (up to 16 can be fitted)
WEIGHT LOAD PER SHELF (Reinforced SS shelves)		up to 40Kh weight load, evenly distributed
VOLUME		1.194 liters
ELECTRICAL SUPPLY		230V ± 10%; 50Hz; 7 Amp.

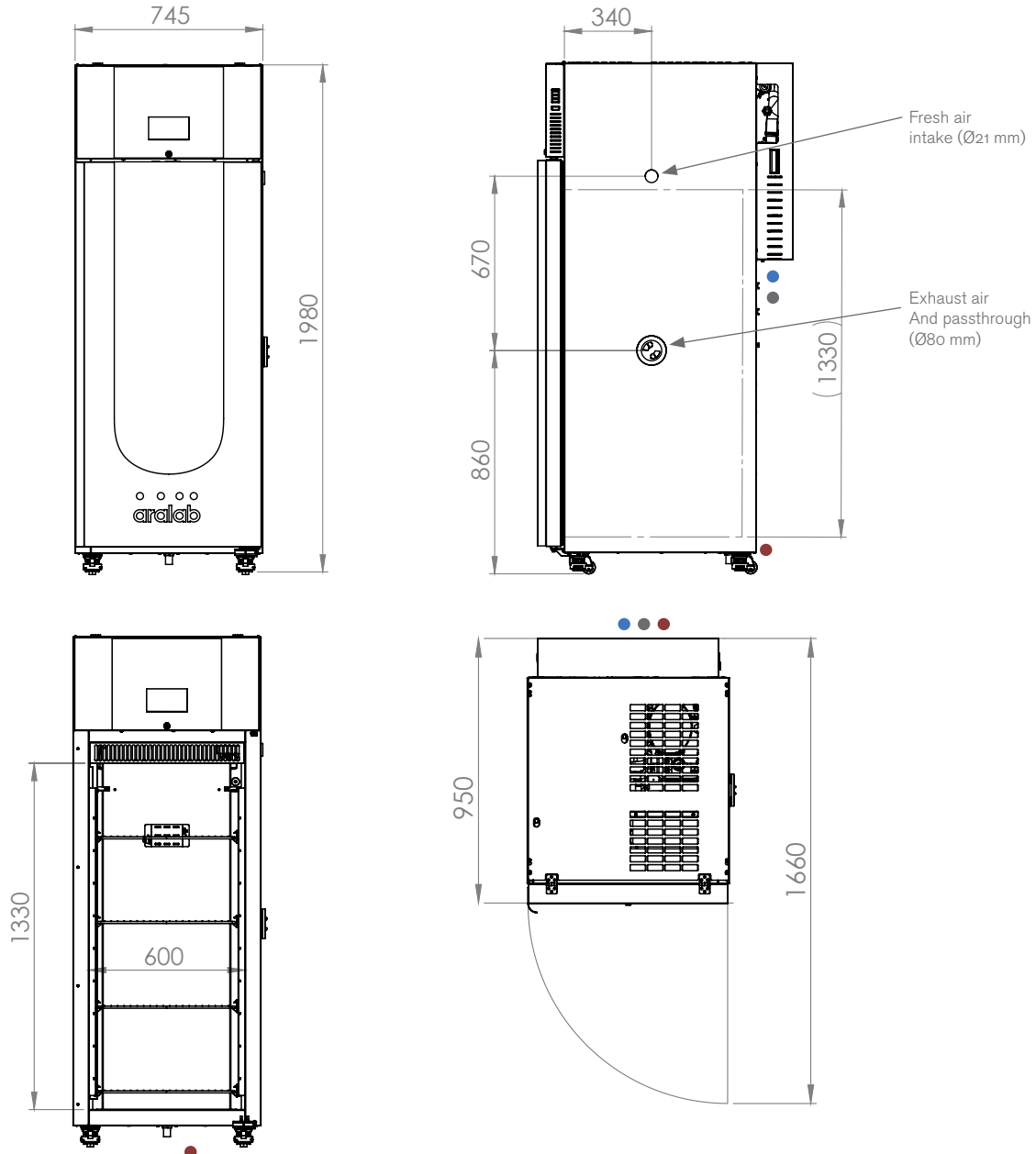
### ● ● ● ● TEMPERATURE & HUMIDITY WORKING RANGE






## DIMENSIONS AND DRAWINGS

### ● ● ● ● FITOCLIMA 600

EXTERNAL DIMENSIONS (HxWxD) (mm)		1.980 x 745 x 950
INTERNAL DIMENSIONS (HxWxD) (mm)		1.330 x 600 x 680

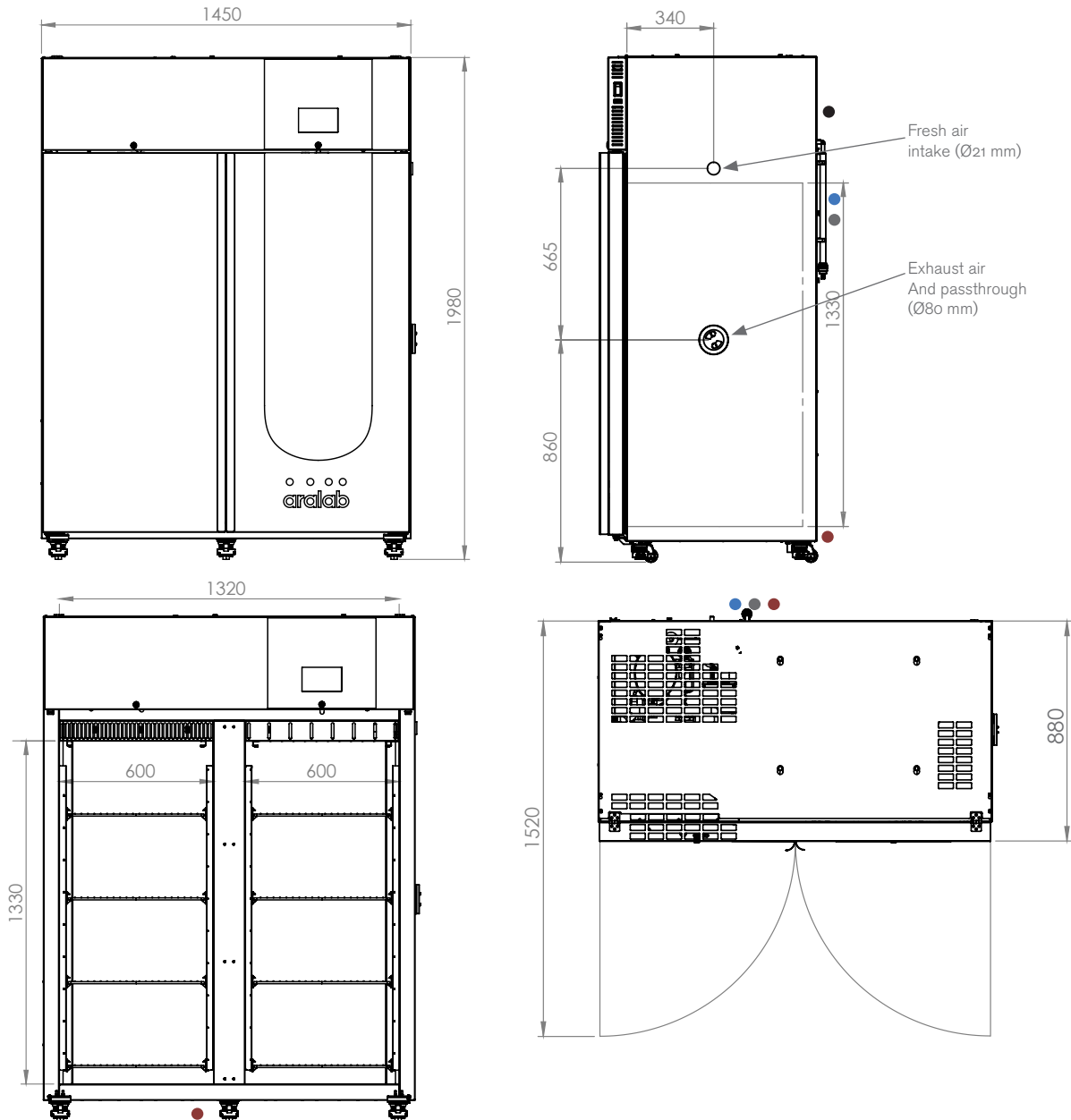


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|---|---|
| <ol style="list-style-type: none"> <li>Standard refrigeration system is air cooled</li> <li> <ul style="list-style-type: none"> <li> Services hub installation needs:</li> <li> ¾" male demineralized water supply valve<br/>Conductivity: &lt;math&gt;&lt; 50 \mu\text{S}/\text{cm}&lt;/math&gt;, TDS &lt;math&gt;&lt; 35\text{PPM}&lt;/math&gt;<br/>Pressure: 1-5 Bar</li> <li>In case of reverse osmosis/cylinder (optional):<br/>¾" male tap water valve connection<br/>Pressure: 1-5 Bar</li> <li> 50mm water drain at floor level</li> </ul> </li> </ol> | <ol style="list-style-type: none"> <li>Electrical cabinet installation needs:<br/>Supply power: 230VAC, 50Hz, 12A / Single Phase + Neutral + Ground<br/>Electrical protection: Circuit breaker 16A + N with 30mA differential<br/> RJ45 communication port</li> <li>Equipment weight: 170Kg (approx.)</li> <li>Average heat dissipation: 0,3 kW</li> </ol> |
|---|---|

## DIMENSIONS AND DRAWINGS

### ● ● ● ● FITOCLIMA 1.200

EXTERNAL DIMENSIONS (HxWxD) (mm)		1.980 x 1.450 x 880
INTERNAL DIMENSIONS (HxWxD) (mm)		1.330 x 1.320 x 680



- Standard refrigeration system is air cooled (-20°C model is water cooled. See point 5.)
- Services hub installation needs:
  - 3/4" male demineralized water supply valve  
Conductivity: <math><50\mu\text{S}/\text{cm}</math>, TDS <math><35\text{PPM}</math>  
Pressure: 1-5 Bar  
In case of reverse osmosis/cylinder (optional):  
● 3/4" male tap water valve connection  
Pressure: 1-5 Bar
  - 50mm water drain at floor level

- Electrical cabinet installation needs:  
Supply power: 230VAC, 50Hz, 13A / Single Phase + Neutral + Ground  
Electrical protection: Circuit breaker 16A + N with 30mA differential  
● RJ45 communication port  
Average Heat dissipation: 0,5 kW
- Equipment weight: 240Kg (approx.)
- Requirements for water cooled condenser for -20C model: Inlet: 15°C to 25°C and 3 to 5 Bar

## EQUIPMENT DESCRIPTION



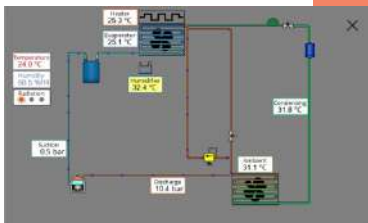
### CONSTRUCTION & CONTROL

- Multi-color 7-inch touch-screen ClimaPlus© controller
- Open door alarm with configurable time-out function
- Highly resistant stainless-steel interior with white reflective coating
- 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
- 80mm Ø side entry port
- Maximum load per chamber: 600 model: 160Kg / 1200: 320Kg



### 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 with clean steam generator, allowing for accurate, long lasting and easy maintenance operations
- Dehumidification by condensation on the cooling system evaporator
- Models with 'Temperature and Humidity control' are equipped with Vaisala capacitive sensors; models with 'Temperature control only' are equipped with Resistive NTC sensor
- Air renovation through adjustable lateral port-holes
- Uniform air flow of approximately 0.2m/s across all 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
- Synoptic: a self-diagnostics tool that checks all active components of the system allowing for faster procedures and minimizing any possible downtimes



### BUILT-IN DECONTAMINATION

- Heat Decontamination sets temperature to 60°C and other functions are disabled. Duration can be set manually as different contaminations can require custom durations.
- Hydrogen Peroxide bio-decontamination capable: FitoClima 600 / 1200 are resistant to H<sub>2</sub>O<sub>2</sub> and now have a bio-decontamination function (only available through Aralab Service Teams) allowing the connection of a H<sub>2</sub>O<sub>2</sub> atomizer system developed by Aralab.



### ECO MODE

- The ECO Mode button turns on new power saving features
- By decreasing some power related activities (depending on set-point conditions), the energy consumption can decrease, translating in cost savings

## CLIMAPLUS HMI CONTROLLER

Programmable PLC exclusively developed for ARALAB chambers

Easy to use coloured Touch-Screen Display Interface

Resolution of 0,1°C for Temperature and 0,1% for Relative Humidity

High performance temperature and humidity control with value correction in all ranges

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

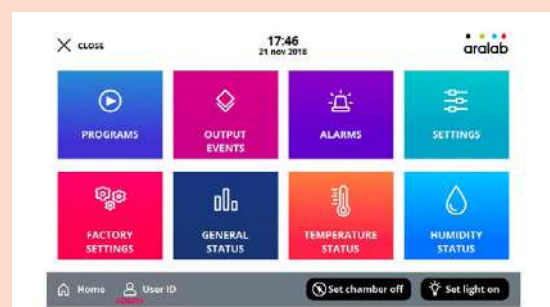
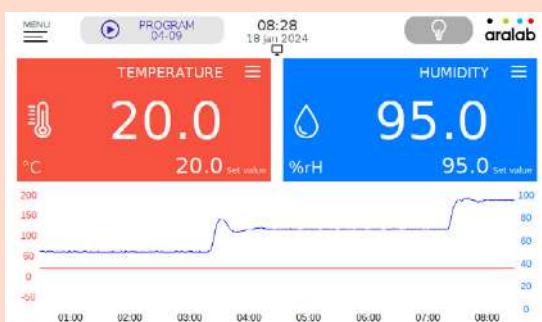
Several outputs for connecting computers or other devices

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



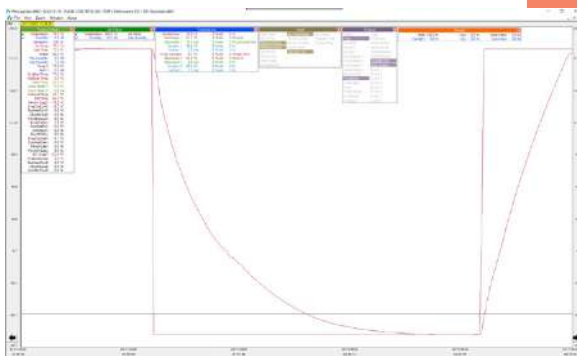
## FITOLOG SOFTWARE

The FitoLog software pack is a set of applications designed to facilitate the managing, monitoring and recording of programs and data from the TESTA 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 CiimaPlus controller. Up to 32 programs, each with 24 segments, can be designed and linked to create detailed environmental profiles and simulations.

## 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.

## ACCESSORIES

### OPTIONAL ACCESSORIES

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FitoLog / FitoView software for data monitoring, logging and programs configuration on the PC

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Ethernet cable for PC connection

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CO2 Controlling and monitoring system

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Wall mounting conductivity meter, for water quality control, with assembling accessories

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Water Demineralizer

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20 liter water tank with electric pump and security valve

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Glass door with double glazing

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Additional Stainless steel wire shelves

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Reinforced shelves for heavy samples

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### ACCESSORY FOR ACCELERATED RADIATION AGING

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8 fluorescent and UV lamps will decrease climatic control range, when lights are ON

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### ACCESSORY FOR CARBONATION

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CO2 Controlling and monitoring system

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Reading range: 0 to 20% or up to 5.000 PPM

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Accuracy: At 5% CO<sub>2</sub> ±0.1% CO<sub>2</sub>  
At 5 to 8% CO<sub>2</sub> ±0.2% CO<sub>2</sub>  
At 8 to 20% CO<sub>2</sub> ±0.4% CO<sub>2</sub>

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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.

Let's meet!

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FitoClima chamber

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aralab

**Control the environment**  
Your own climate