



PLANT GROWTH CHAMBER

Model: - FPGC-1600 L3AR

PRODUCT OVERVIEW

FIDELS chamber has a unique ability to fit various research applications and is flexible in its design. It can be fitted with various mix and match upgrades kits to suit a variety of applications.

Some of which are Plant Growth, and other many applications.

APPLICATIONS

Plant Growth: This chamber is used for soybean, Rice, Tomato, cotton or other height plants.

Arabidopsis: This chamber is used for Arabidopsis plants.

Algae: This is designed for Algae research.

Tissue Culture: This used for Plant Tissue culture

Incubator (with Light): This is used for Cyanobacteria, insects and simple low-cost Seed Germination.

Incubator (without Light): This is used for nematodes, yeast/ fungi, insects and BOD.

CONTROLLER

FIDELS has built a reputation of providing reliable customized options for research

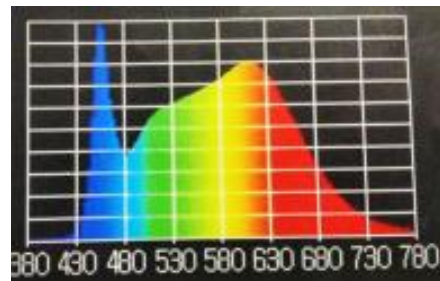
A touchscreen user interface is provided as standard on all FIDELS plant growth chambers and allows users to interact with their controlled environment in new and intuitive ways.

- 10.1" IPS, high resolution display with 10-point multi-touch sensitivity
- Tabular and graphical presentation of chamber programs and parameters.
- Highly visible process values and alarm notifications.

- Enhanced user feedback menus.
- Robust and reliable, industrial-grade integrated hardware design.
- Multi-level password protection.
- Highly flexible architecture facilitates configuration, expansion and customization.
- Flexibility for multi-tier configurations for higher versatility
- Precise, simultaneous control of up to 7 environmental parameters.

LIGHTING SYSTEM

- Three tiers of lighted shelving lit with enhanced red
- Intensity programmable up to 350 $\mu\text{moles}/\text{m}^2/\text{s}$ of light irradiance measured @ 6" from LEDs
- Programming and control of the lighting is done via real time controller
- Dimmable between 10-100% output
- **Type:** LED
- **Programming:** Via real time Controller.
- **LED output color:** white
- **PAR spectrum:** for plant growth



INSULATION

Woodless construction using foam-in-place 2" [5.1 cm] thick CFC free urethane insulation foam (this is an environmentally friendly foam with global warming potential of 0.0 and ozone depletion potential of 0.0)

CABINET CONSTRUCTION

- Double walled Chamber with Inner of stainless steel 304 grade C
- Interior floor constructed of 22-gauge polished stainless steel.
- Exterior constructed of RCA duly powder coated.
- Overall wall thickness is 2" (5.1 cm)
- Integrated floor drain
- Contains casters assembly and adjustable leveling legs
- One 1.25" access port with air-tight plug
- Highly durable and reflective coating

AIRFLOW/CIRCULATION

Air circulation inside chamber is from a specifically designed air diffuser (air travels along the entire back wall, over the shelves and returns to the ceiling fans through an opening between the light fixtures and the doors)

DOOR

- Two reach-in doors each with an opening of 22.7" x 57.7" (57.6 cm x 146.5 cm) providing full access to chamber interior
- Magnetic gasket provides a tight seal to door frame

INTERIOR SPACE

- 71.6 ft³ (2 m³) with work area of 32.2 ft² (3 m²) provided on three tiers.

SHELVING

- Three tiers of stainless-steel shelving (each shelf is 27.3"W x 28.4"D [69.2 cm x 72.1 cm])
- Each shelf is supported by shelf clips allowing ½" vertical adjustments
- Maximum growing height is 18.3" (46.4 cm) per tier

REFRIGERATION

- Self-contained air-cooled condensing unit with hot gas bypass system for continuous compressor operation, extended life and tight temperature control. Continuous running condensing unit ensures precise temperature control by alternately cycling refrigerant and hot gas to coil; also prolongs compressor life, and eliminates risk of ice buildup in coil.
- Extended stem solenoid valves for quiet and long-life operation
- Heat rejection to the ambient (standard refrigeration system) = 4,237 BTU/hr.

HUMIDITY CONTROL

- Ultrasonic Humidifier with Advanced RH Sensor (F11)
- Ultrasonic Humidifier and Dehumidifier with Advanced RH Sensor (F12)
- Ultrasonic Humidifier with Electronic RH sensor (F14)
- Ultrasonic Humidifier and Dehumidifier with Electronic RH sensor (F15)
- Additive CO₂ control

TEMPERATURE CONTROL

- (Experiment Protection) Adjustable high and low temperature controls, audible alarms, and visual indicators provided
- Controls shut down all power to the chamber, activating alarms
- Chambers have extended temperature ranges.
- System automatically resets when temperature returns to normal range
- 2°-44°C (±0.5°C) lights off and 7°-44°C (±0.5°C) lights on (full fresh air) within work area on horizontal plane with lights on

ELECTRICAL REQUIREMENT

- Power 220 volts single phase.

SPECIFICATION

Model	Light Intensity 6" from lamps	Temperature Range with all lights on	Interior Space volume	Total Shelving Floor Area	Maximum Growing Height	Exterior Dimensions width depth height			Tiers
						Width	depth	height	
	μmoles/m ² /s	°C	m ³	m ²	Cm	cm	cm	cm	
Plant Growth									
						41 (in)	33.6 (in)	77.2 (in)	
FPGC-800 L2PG	680	7-44±0.5	0.8	1	57.5	85.1	85.4	196.1	2
FPGC-1100 L2PG	800	7-44±0.5	1.1	1.3	57.5	104.1	85.4	196.1	2
FPGC-1100 L1PG	800	7-44±0.5	1.1	0.6	123.4	104.1	85.4	196.1	1
FPGC-1100 L4PG2	300	10-45±0.5	1.1	2.5	39.5	106.68	85.4	203.2	4
Algae									
FPGC-1100 L4AL	405	7-44±0.5	1.1	2.5	26.9	104.1	85.4	196.1	4
FPGC-800 L3AL	350	7-44±0.5	0.8	2	26.9	104.1	85.4	196.1	4
Arabidopsis									
FPGC-1500 L5AR	300	05-45±0.5	1.5	3.5	20.6	104.1	85.4	196.1	5
FPGC-1100 L3AR	405	7-44±0.5	1.1	1.9	25.7	104.1	85.4	196.1	3
FPGC-1600 L3AR	350	7-44±0.5	2	3	46.4	195.3	94.3	199.4	3
Tissue Culture									
FPGC-1100 L5CU	200	10-45±0.5	1.1	3.2	17	104.1	85.4	196.1	5
FPGC-1100 L4CU	200	5-45±0.5	1.1	2.5	25	104.1	85.4	196.1	4
FPGC-1100 L3CU	400	10-45±0.5	1.1	2.5	24.1	104.1	85.4	196.1	4
Incubator									
FPGC-800 NL/LV-IN	125	5-45±0.5	0.8	2	28.6	85.1	85.4	196.1	4
FPGC-800 NLIN	No Light	2-45±0.5	0.8	3	20.3	85.1	85.4	196.1	6
FPGC-800VLGR	140	5-45±0.5	0.8	7.1	6.7	85.1	85.4	196.1	15

WE CUSTOMISE AS PER YOUR NEED



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