FIDELS SCIENCE

Arabidopsis FIDELS model FS-75L3

Applications

- This chamber is frequently used for Arabidopsis thaliana, Brassica sp., lettuce, spinach and other plants with lower light intensity requirements
- Many other applications exist for this product

Please compare your own requirements to the specifications listed below.

Controller

The control system was purpose-built for controlled environments and is standard on all chambers.

- Robust and reliable, industrial-grade integrated hardware design
- Highly flexible architecture facilitates configuration, expansion and customization
- Precise, simultaneous control of up to 7 environmental parameters
- Industry-leading experiment protection and system diagnostics

Controller Graphical User Interface

A touchscreen user interface is provided as standard on all 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

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)

FiWhite LED Lighting System

- Three tiers of lighted shelving lit by FiWhite LEDs with enhanced red
- Intensity programmable up to 350 µmoles/m2/s of light irradiance measured @ 6" from LEDs
- Programming and control of the lighting is done via IntellusUltra real time controller
- Dimmable between 10-100% output

Cabinet Construction

- Interior constructed of 24-gauge galvanized steel
- Interior floor constructed of 22-gauge polished stainless steel
- Exterior constructed of 24-gauge Galvannealed extra-smooth steel
- 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

Temp Range with all lights on	Interior Space volume		Total Shelving Floor Area		Maximum Growing Height		Exterior Dimensions width		depth		height		Light Intensity 6" from lamps unless otherwise noted	Tiers
°C	ft³	m³	ft²	m²	in	cm	in	cm	in	cm	in	cm	µmoles/m²/s	
7-44±0.5	71.6	2	32.2	3	18.3	46.4	76.9	195.3	37.1	94.3	78.5	199.4	350	3

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 [GWP] of 0.0 and ozone depletion potentia

Doors

- 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 build up in coil.
- Extended stem solenoid valves for quiet and long life operation
- Heat rejection to the ambient (standard refrigeration system) = 4,237 BTU/hr.

Temperature 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

Humidity Control

- Humidifier- consists of an ultrasonic humidifier
- Dehumidifier- consists of electrical heater and one dehumidifying evaporator.
- Electronic R.H. sensor and signal conditioner- consists of Vaisala HUMICHIP sensor. This is a capacitive humidity sensor designed to operate in non-condensing environments. Measurement range is 1 ...99%RH, with an accuracy of +/- 4%RH
- The controller uses PID calculations with set point values to determine activation and deactivation of the ultrasonic humidifier, reheat heater, and dehumidifying coil for optimum control
- The RH control range 50-80% light ON and 50-90% Lights OFF. The control accuracy in a horizontal plane is +/- 10%

Temperature Safety Limit Controls

- (Experiment Protection) Adjustable high and low temperature controls, audible alarms, and visual indicators provided
- Controls shut down all power to the chamber, activating alarms
- System automatically resets when temperature returns to normal range

Options (most popular)

- Additive CO2 control
- CO2 removal system
- Self-contained water-cooled condensing unit
- Dry alarm contacts
- Closed loop dimmable lighting with PAR light sensor
- Open loop dimmable lighting per tier
- Extended temperature ranges available
- Convenience receptacles

Electrical Service Requirements

- 120/1/60 - two grounded cords (NEMA 5-15P) provided for standard chamber

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