PLANT GROWTH CHAMBERS

2-DOOR & 3-DOOR EXTRA LARGE CAPACITY

CARON

Opening Doors for Scientists

PRODUCT LINE OVERVIEW & FEATURES

PLANT GROWTH CHAMBERS DESIGNED FOR A WIDE RANGE OF APPLICATIONS

Caron's full line of Plant Growth Chambers provides precision environmental conditions for the growth of vibrant, healthy plants. Our chambers deliver the most accurately controlled conditions for optimum plant research and repeatable, reliable results.

These reach-in, extra-large capacity chambers provide tight uniform control of temperature and a balanced lighting spectrum using Caron's gLux™ high efficiency fluorescent lamps. The earth-friendly gLux lamps are modular, expandable and waterproof. Lamp banks are precisely spaced for uniformed, balanced light spectrum across all locations. Independent light banks allow you to utilize the chamber's lighting system according to your requirements.

Our models include Plant Growth Chambers and Arabidopsis/Algae Chambers, used for applications including: general plant growth experiments, standard plant production, lighting for vascular plants, plant pathology, plant morphology, algae production, genetic studies involving arabidopsis, pharmaceutical development and medicinal plants, plant physiology, plant biochemistry, plant molecular biology and more! See the specifications chart to find the right chamber for your need.

Caron is committed to designing environmentally efficient products. Our green technologies are cutting edge, yielding proven cost savings and energy efficiency. Unlike competitive chambers that constantly operate the refrigeration system, our gROD™, Refrigeration on Demand control system, operates the refrigeration system only when it is needed to maintain the temperature setpoint. Insulation is high R, CFC-free foam, contributing to high thermal retention, placing less demand on your lab's air conditioner.

A wide range of options and accessories allows you to modify the chamber specifically to your need. Some popular options include: humidity control, programmable/dimmable lights, CO_2 control and chlorophyll-matching red (660 nm) and blue (420 nm) lamps. Optional humidity control uses gVapor™ and absolute humidity control technologies. gVapor is our steam-free humidity system that delivers controlled humidity vapor on an as-needed basis without wasting energy or generating heat. Absolute humidity control delivers unmatched, fast open door recovery and quick response time to setpoint changes.

FEATURES & BENEFITS

- Our gLux lights are 65% brighter and last up to twice as long as other light fixtures and include a 24 hour cycle timer for day/night temperature settings.
- These chambers offer a wide temperature range with excellent uniformity and control. Our robust refrigeration system manages lamp heat and is reliable for years of trouble-free operation at continuous 24/7 setpoint with no defrost cycle or temperature spikes.
- gROD, Refrigeration on Demand, efficiently manages power consumption and saves electricity by providing refrigeration as needed.
- The carefully designed horizontal airflow system generates evenly distributed airflow.
- Our tool-less removable interior uses unique stainless steel latches, making it easy to clean and reconfigure.
- Front access to electrical board and air filter make the chamber easy to maintain.
- Caron green door handles are aesthetically pleasing and enhance ergonomics.

STANDARD FEATURES & BENEFITS

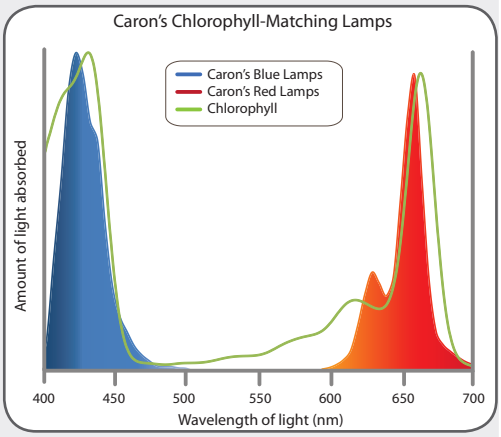
- 7" color touchscreen is intuitive and features easy-to-read icons and a familiar, user-friendly display that can be operated with gloves on.
- The user interface includes a configurable status center to communicate a wide range of status conditions, including a change lamp warning that monitors lamp-life hours.
- In the event of a power failure, non-volatile memory allows the chamber to return to its original setpoint when power is restored.
- Door locks are standard, protecting your chamber from unauthorized access to the interior.
- Magnetically sealed, self-closing and light-tight solid doors are 1.5" thick and insulated for optimal chamber performance.
- These chambers are designed with energy efficient, high R, CFC-free foam insulation, contributing to minimal heat loss.
- Interior and exterior are comprised of stainless steel, making it easy to clean and highly resistant to corrosion.
- Contains two access ports (one on each side), providing you with convenient access to connect instrumentation.

New! Simple, convenient controls: the intuitive control panel has a real-time clock, is easy to reach and simple to use with fewer buttons to navigate. Just touch the 7" full-color screen to put command at your fingertips. Our controls are "smart," using breadcrumb trail navigation to keep track of your location within the menus.

The built-in, icon-based status center provides vital information updates, including: alerts, alarms and information statuses, allowing for peace of mind, worry-free operation. All alerts, alarms and information status icons will display in the status bar when initiated, with additional information ready to read by simply selecting the icon. The change lamp alarm keeps track of lamp life, notifying you when lamps should be replaced. Our snooze mode is a convenient new function that allows you to be reminded of alarms at a later time. Additionally, the built-in intelligence avoids nuisance alarms and the password protection feature prevents unauthorized access.

OPTIONAL LIGHTING ENHANCEMENTS

Our standard lamps are interchangeable, so you can configure other lamp options, depending on your research needs. We offer unique Grow, Bloom, Red and Blue lamps as optional alternatives. **Grow** lamps (LGHT306) mimic the sun's daylight rays with 6500K color temperature. **Bloom** lamps (LGHT307) provide optimal light spectrum with 2900K color temperature, useful to produce abundant fruit and flowers.



To even further target plant growth, our blue and red lamps give your plants the exact wavelengths they use to flourish and obtain energy. Since chlorophyll absorbs light in the blue and red regions, precisely matching this perfect light wavelength allows plants to grow at the fastest, healthiest rate.

Blue lamps (LGHT308) are commonly used to foster faster flowering and fruit development. These lamps produce high quantities of chlorophyll-absorbing light in the 420 nm range. **Red** lamps (LGHT309) produce high quantities of chlorophyll-absorbing light in the 660 nm range and are ideal for crops and plants at the end of their growing cycles. Mix and match blue and red lamps for the best results.

*Lamp packages come in sets of four.

PLANT GROWTH MODELS

MODEL 7300 PLANT GROWTH: *Maximum Growth Height, High Light Levels, 500 µmoles/m²/s*

Ideal for experiments with cereal crops, shrubs, saplings and horticulture plants, general plant growth experiments and standard plant production.

Model/Size	7300-50 (50 ft³, 2-Doors/Sections)	7300-75 (75 ft³, 3-Doors/Sections)
Light Intensity	500 µmoles/m²/s	
Growth Height	50.5"	
Shelf/Growth Area	8 ft²	12 ft²
Number of Tiers	1 Per Section	
Lamps per Tier	8	
Lamps Total	16	24
Independent Circuits	2	3
Dimmable Lights & Intensity Display	Optional: LGHT311	Optional: LGHT315

MODEL 7301 PLANT GROWTH: *Maximum Growth Area, High Light Levels 500 µmoles/m²/s*

The multi-tier shelf design is ideal for maximizing growth area for general plant growth experiments and standard plant production.

Model/Size	7301-50 (50 ft³, 2-Doors/Sections)	7301-75 (75 ft³, 3-Doors/Sections)
Light Intensity	500 µmoles/m²/s	
Growth Height	23.5"/25.5"	
Shelf/Growth Area	16 ft²	24 ft²
Number of Tiers	2 Per Section	
Lamps per Tier	8	
Lamps Total	32	48
Independent Circuits	2	3
Dimmable Lights & Intensity Display	Optional: LGHT312	Optional: LGHT316

MODEL 7303 ARABIDOPSIS/ALGAE: *Maximum Growth Height, Medium Light Levels, 300 µmoles/m²/s*

Ideal for algae production, genetic studies involving Arabidopsis, plant physiology and early growth studies.

Model	7303-50 (50 ft³, 2-Doors/Sections)	7303-75 (75 ft³, 3-Doors/Sections)
Light Intensity	300 µmoles/m²/s	
Growth Height	23.5"/25.5"	
Shelf/Growth Area	16 ft²	24 ft²
Number of Tiers	2 Per Section	
Lamps per Tier	6	
Lamps Total	24	36
Independent Circuits	2	3
Dimmable Lights & Intensity Display	Optional: LGHT313	Optional: LGHT317

ARABIDOPSIS/ALGAE MODELS

MODEL 7304 ARABIDOPSIS/ALGAE: *Maximum Growth Area, Medium Light Levels, 300 µmoles/m²/s*

Three-tier design maximizes growth area for algae production, genetic studies involving Arabidopsis, plant physiology and early growth studies.

Model	7304-50 (50 ft³, 2-Doors/Sections)	7304-75 (75 ft³, 3-Doors/Sections)
Light Intensity	300 µmoles/m²/s	
Growth Height	14.5"	
Shelf/Growth Area	24 ft²	36 ft²
Number of Tiers	3 Per Section	
Lamps per Tier	6	
Lamps Total	36	54
Independent Circuits	2	3
Dimmable Lights & Intensity Display	Optional: LGHT314	Optional: LGHT318

MULTIPLE OPTIONS FOR ALL MODELS

Remote alarm contacts provide NO/NC	ALRM302
IR-CO_2 Control from ambient to 20%	CO2C302
Condensate Recirculating system: provides a pure water source for chambers with the humidity option	CRSY102
Humidity control from ambient to 85% for 50 ft³ chambers**	HUMD302
Humidity control from ambient to 85% for 75 ft³ chambers**	HUMD303
Installation and startup of equipment	INST001
Additional access port	PORT304
Additional cool white 24W gLux fluorescent lamps (set of four)*	LGHT310
Additional cool white 80W gLux fluorescent, dimmable lamps (set of four) for 7302 models	LGHT319
Grow lamps mimic the sun's daylight and enhance plant growth, 6500K color temperature (set of four)*	LGHT306
Bloom lamps provide optimal light spectrum to produce abundant fruit & flowers, 2900K color temperature (set of four)*	LGHT307
Blue light produces high quantities of chlorophyll-absorbing light in the 420 nm range (set of four)*	LGHT308
Red light produces high quantities of chlorophyll-absorbing light in the 660 nm range (set of four)*	LGHT309
Universal analog output (0-5V, 4-20mA) provides one connection for monitoring temp	OUTP301
Universal analog output (0-5V, 4-20mA) provides two connections for monitoring temp & humidity	OUTP302
6" door mounted chart recorder, temp only	RCDR316
6" door mounted chart recorder, temp & humidity	RCDR317
10" door mounted chart recorder, temp only	RCDR318
10" door mounted chart recorder, temp & humidity	RCDR319

*Denotes light packages for models: 7300, 7301, 7303 and 7304 only.

** *Day cycle only. Full RH control during both day and night cycle requires optional DRYR301 dehumidification system.*

CHAMBER SPECIFICATIONS

Models: Two-Doors	**7300-50-2**	**7300-50-3**	**7301-50-2**	**7301-50-3**	**7303-50-2**	**7303-50-3**	**7304-50-2**	**7304-50-3**
Light Intensity, μmoles/m^2/s	500				300			
Number of Tiers	1		2		2		3	
Shelves Total	2		4		4		6	
Shelf Area (ft^2)	8		16		16		24	
Shelf Construction, Dimensions	Type 304 Stainless Steel, Electro polished, 21.6"W x 26.5"D (55 cm x 67 cm)							
Growth Height (inches)	50.5		23.5/25.5		23.5/25.5		14.5	
Temp. Range (lights on)	10°C to 50°C							
Temp. Range (lights off)	5°C to 50°C							
Temp. Sensor & Control	3-wire RTD, ±0.2°C							
Interior Dimensions	51" W x 28.5" D x 59" H (130 cm x 72 cm x 150 cm)							
Interior/Exterior Construction	Stainless Steel							
Exterior Dimensions	57" W x 35.1" D* x 81.5" H (145 cm x 89 cm x 207 cm)							
Work Space	50 ft^3 (1,416 Liters)							
Electrical	208/230V, 60Hz, 16A	230V, 50Hz, 16A	208/230V, 60Hz, 16A	230V, 50Hz, 16A	208/230V, 60Hz, 16A	230V, 50Hz, 16A	208/230V, 60Hz, 16A	230V, 50Hz, 16A
Shipping Weight, lbs.	1,000	1,300**	1,000	1,300**	1,000	1,300**	1,000	1,300**

Models: Three-Doors	**7300-75-2**	**7300-75-3**	**7301-75-2**	**7301-75-3**	**7303-75-2**	**7303-75-3**	**7304-75-2**	**7304-75-3**
Light Intensity, μmoles/m^2/s	500				300			
Number of Tiers	1		2		2		3	
Shelves Total	3		6		6		9	
Shelf Area (ft^2)	12		24		24		36	
Shelf Construction, Dimensions	Type 304 Stainless Steel, Electro polished, 21.6"W x 26.5"D (55 cm x 67 cm)							
Growth Height (inches)	50.5		23.5/25.5		23.5/25.5		14.5	
Temp. Range (lights on)	10°C to 50°C				10°C to 50°C			
Temp. Range (lights off)	5°C to 50°C							
Temp. Sensor & Control	3-wire RTD, ±0.2°C							
Interior Dimensions	79.5" W x 28.5" D x 59" H (202 cm x 72 cm x 150 cm)							
Interior/Exterior Construction	Stainless Steel							
Exterior Dimensions	85.5" W x 35.1" D x 81.5" H (217 cm x 89 cm x 207 cm)							
Work Space	75 ft^3 (2,124 Liters)							
Electrical	208/230V, 60Hz, 20A	230V, 50Hz, 20A	208/230V, 60Hz, 20A	230V, 50Hz, 20A	208/230V, 60Hz, 20A	230V, 50Hz, 20A	208/230V, 60Hz, 20A	230V, 50Hz, 20A
Shipping Weight, lbs.	1,425	1,950**	1,425	1,950**	1,425	1,950**	1,425	1,950**

Note: Specifications are subject to change without notice. Light intensity will vary with interior temperature. Specifications were established with 20°C ambient. *Add 2.75" for handle. Fits through a 33.5" standard door opening with door assembly and front panel removed. **Includes export shipping crate.

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