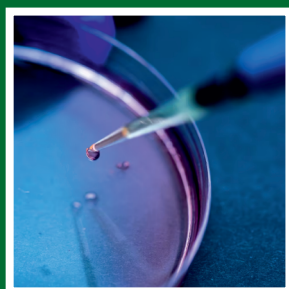# Plant Growth Chambers



**Temperature Range:** 10ºC - 35ºC Lights On
5ºC - 35ºC Lights Off

**Humidity Range:** 40%Rh to 90%Rh Lights On
40%Rh to 90%Rh Lights Off

# Features | Functions | Flexibility



- Agriculture, agrobiology
- Horticulture, fruit farming, winemaking, cultivation of ornamental plants
- Green genetic engineering
- Phytobiology, photobiology
- Plant physiology and plant genetics
- Plant protection, plant health
- Entomology

## Key Features

- Excellent temperature stability
- High quality LED lights
- Interlocked insulated panels for Walk-In Chambers
- High & low limit temperature protection
- Color touch screen display
- Uniform air flow inside chamber
- User programmable alarm settings
- Unparalleled light efficiency
- Automatic PLC controls
- Stainless steel inner construction
- Adjustable shelving arrangement

## Climatic Control

- Air based, CFC free, mechanical refrigeration by sealed condenser group
- Heating technology with stainless steel electric heaters
- Humidification by ultrasonic generator with automatic water level control

## Key Features

- Dynamic airflow through blowers
- Forced airflow in horizontal and downward direction
- Horizontal airflow across the shelves to assure uniformity to all growth area
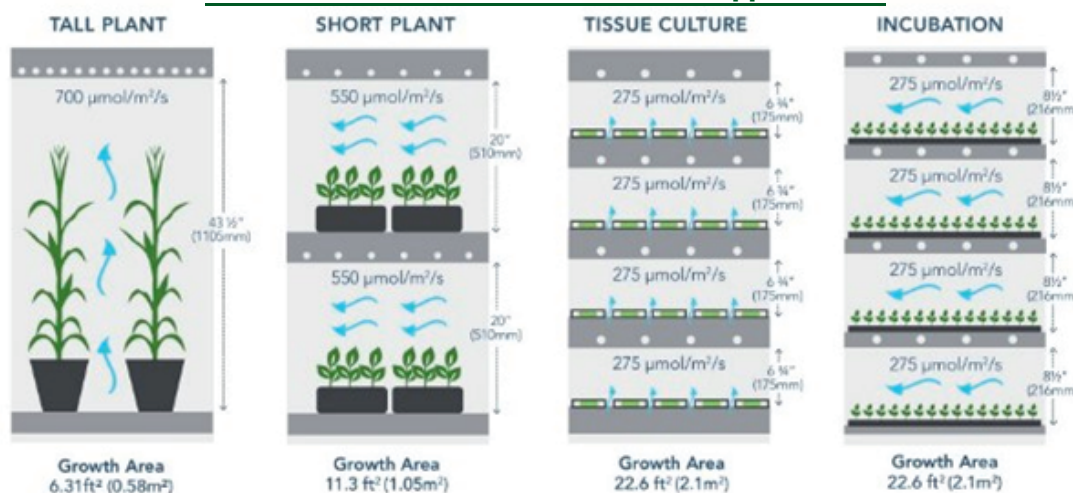
## Research Protection and Security

- 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 deviations

## PLC Controller

- Controller exclusively developed by Newtronic
- Controls every environmental variable available (Temperature, Humidity, Lights)
- Easy to use touch-screen interface
- Password protection of the controller functions
- Configurable high and low temperature and humidity alarms and automatic notifications
- Recording of all alarms
- Non-volatile memory, allowing the automatic restart of previously defined 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

## Different Airflow Patterns based on Application



**TALL PLANT**
700 μmol/m²/s
43 ½" (1105mm)
Growth Area 6.31ft² (0.58m²)

**SHORT PLANT**
550 μmol/m²/s
20" (510mm)
550 μmol/m²/s
20" (510mm)
Growth Area 11.3 ft² (1.05m²)

**TISSUE CULTURE**
275 μmol/m²/s — 6 ¼" (175mm)
275 μmol/m²/s — 6 ¼" (175mm)
275 μmol/m²/s — 6 ¼" (175mm)
275 μmol/m²/s — 6 ¼" (175mm)
Growth Area 22.6 ft² (2.1m²)

**INCUBATION**
275 μmol/m²/s — 8½" (216mm)
275 μmol/m²/s — 8½" (216mm)
275 μmol/m²/s — 8½" (216mm)
275 μmol/m²/s — 8½" (216mm)
Growth Area 22.6 ft² (2.1m²)

# Precise Control with Diverse application

# Complete Controlled Environment....

## Standard Equipments

- Doubled walled with PUF insulation
- SS 304 Interior & exterior either SS 304 or Mild Steel
- Adjustable Stainless steel trays. Growth height can be adjusted by adding or removing the trays
- Full-length inner glass door & metal door with gasket & lock on the outside.
- LED lights, Day/night programmable cycle
- Forced air circulation for Uniform temperature
- PU wheels for easy movements
- U shaped SS tubular heater
- CFC free cooling system consists of hermetically sealed compressor coupled with evaporation coil and condenser.
- Complete operation driven through PLC with data logging capacity of up to 1000 readings
- Printer interface facility
- All operations through a 4" color touch screen display
- High quality Euporean make Temperature & Humidity combo sensor with 4-20mA output.
- Safety device: Low & High temperature cut-off settable thermostats high humidity cut off device
- Audio- visual alarms for deviations
- Operation & Maintenance Manual

**Power Supply:** 230 Volts, 50 Hz mains supply.  Also  available with 60 Hz cycle.

## Optional Accessories

- $CO_2$ control 0-1000 ppm.
- Steam based Humidification system with automatic water level control
- ICDAS - A Single Software installation for all Newtronic make equipments
- PAR Light
- Standby Cooling and Humidity options are available
- Door Access System (Biometric / Numeric in case of PLC-based)
- Door Access System (Biometric only in case of PID-based)

### Plant Growth Selection Guide (Model with Interior & Exterior made of Stainless Steel)

| Model | Capacity | | Internal Size | External Size | Trays Qty. | Trays Size | Approx. Weight (Kg) | |
|---|---|---|---|---|---|---|---|---|
| | CuFt. | Liter | (H*W*D) mm | (H*W*D) mm | | (W*D) mm | Eqip. | Ship. |
| NLPG7SI | 7 | 200 | 800 X 500 X 500 | 1295 X 640 X 990 | 3 | 430 X 460 | 150 | 225 |
| NLPG16SI | 16 | 430 | 1200 X 600 X 600 | 1695 X 740 X 1110 | 4 | 530 X 560 | 250 | 325 |
| NLPG26SI | 26 | 735 | 1500 X 700 X 700 | 2050 X 840 X 1210 | 5 | 630 X 660 | 275 | 350 |
| NLPG34SI | 34 | 1000 | 1500 X 800 X 800 | 2050 X 940 X 1310 | 5 | 730 X 760 | 350 | 425 |
| NLPG54SI | 54 | 1500 | 1500 X 1600 X 600 | 2050 X 1740 X 1125 | 10 | 695 X 560 | 350 | 450 |
| NLPG71SI | 71 | 2000 | 1500 X 1600 X 800 | 2050 X 1740 X 1325 | 10 | 695 X 760 | 375 | 475 |

* Models with exterior of mild Steel & interior of SS 304 will be available on request.

**Features**

PLC Control    Touch Screen    Alarms    Safety