

# Plant Growth Chamber

< Standard model >  
Dimmable



240e/410e

● WHITE

● YELLOW

● PINK



LPH-411PFDT-SP

## Choose from 3 LED colors!



SUNRAY LIGHT  
WHITE



PLANTFLEC  
YELLOW



PLANTFLEC  
PINK

## 5-side irradiation



The measurement port on the ceiling.

Works as a single door—  
perfect for growing tall plants.



This is an energy-saving model of a standard closed-type plant growth chamber, equipped with dimmable LEDs as standard.

## Features

- An operation touch panel with time display is mounted on the upper part of the main body, which allows easy operation.
- Model L(P)H-□PF(S/D/P)T-S allows both constant operation at any temperature/light/ (humidity) and day/night switching operation.
- Model L(P)H-□PF(S/D/P)T-SP allows a program control.
- Five-sided illumination. The light can be continuously dimmed from 20% to 100% or 0%.
- Model LHs don't need a drain hose or a tank because of a forced evaporation system inside the chamber.
- Three-position controller is used for temperature and humidity control (proportional control for heating), which provides low running costs.
- The inner door has energy-saving functions, being used as one door or two up-and-down doors as per usual.
- Two-level wind speed control is installed to protect wind-sensitive plants..
- A hole of 40 mm diameter for measurement is included as standard.
- Humidity control system can be selected from "only humidification" or "only dehumidification" or "both humidification and dehumidification."

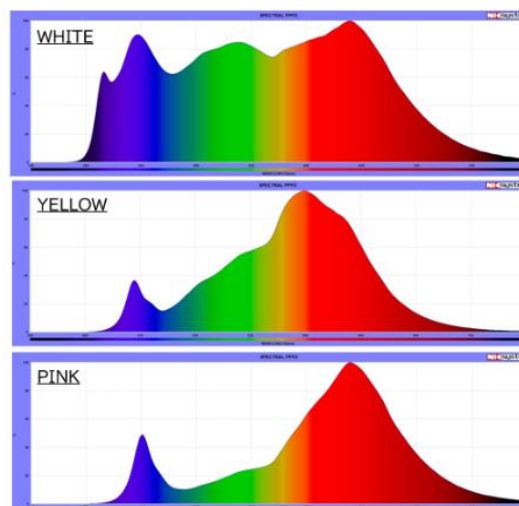
## Applications

- Plant cell/tissue culture, germination, acclimation, or growth test
- Environmental test
- Growth of rice, arabidopsis, etc.
- Insect experiment
- Environmental resistance test for plants
- Storage test at constant temperature and at constant humidity (only Model LPH)

## Options

- Table for a water tank (Model LPH) (Size:W300×D400×H900mm)
- Evaporator for drained water (Model LPH)

## LED spectrum



## Specifications

### 240 ℓ series

| Model                 | White LED       | LH-241PFST-S                                                                                                                                                             | LPH-241PFST-S                | LH-241PFST-SP                                                                                                                                               | LPH-241PFST-SP               |
|-----------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
|                       | Yellow LED      | LH-241PFDT-S                                                                                                                                                             | LPH-241PFDT-S                | LH-241PFDT-SP                                                                                                                                               | LPH-241PFDT-SP               |
|                       | Pink LED        | LH-241PFPT-S                                                                                                                                                             | LPH-241PFPT-S                | LH-241PFPT-SP                                                                                                                                               | LPH-241PFPT-SP               |
| Outer dimensions (mm) |                 | W760 × D726 × H1,767                                                                                                                                                     |                              |                                                                                                                                                             |                              |
| Inner dimensions (mm) |                 | W512 × D485 × H980                                                                                                                                                       |                              |                                                                                                                                                             |                              |
| Control system        |                 | Changeover between constant operation and day/night switching operation                                                                                                  |                              | Real-time based control (24 hours)/Cumulated hours-based control(Up to 999 hours and 59 minutes/step)<br><br>24steps/5patterns with a pattern link function |                              |
| Repeat                |                 | —                                                                                                                                                                        |                              | 1 to 99 times or unlimited                                                                                                                                  |                              |
| Control methods       |                 | Three-position control method: Refrigerator and humidifier, ON/OFF control; heater, proportional control                                                                 |                              |                                                                                                                                                             |                              |
| Temperature           |                 | +5℃ to 50℃ ± 1℃ (+15℃ ~ when all lights on)                                                                                                                              |                              |                                                                                                                                                             |                              |
| Humidity              |                 | —                                                                                                                                                                        | 50-80%RH ± 10%RH<br>(15-45℃) | —                                                                                                                                                           | 50-80%RH ± 10%RH<br>(15-45℃) |
| Illuminance           |                 | White and Yellow: 0 to 20,000 lx,      Pink: 0 to 12,000 lx<br><br>They can be continuously dimmed from 20% to 100% or 0% (all lights off)                               |                              |                                                                                                                                                             |                              |
| Photon flux density   |                 | White:0 to 330 μmolm <sup>-2</sup> s <sup>-1</sup> ,      Yellow: 0 to 280 μmolm <sup>-2</sup> s <sup>-1</sup> ,      Pink: 0 to 260 μmolm <sup>-2</sup> s <sup>-1</sup> |                              |                                                                                                                                                             |                              |
| Light source          | Illumination    | White: Straight tube sun-like LED lamp (SUNRAY LIGHT)<br>Yellow and Pink: Straight tube LED lamp (PLANTFLEC) for plant growth                                            |                              |                                                                                                                                                             |                              |
|                       | Number of lamps | Left, right, and rear: 4 lamps (40W) x 3 sides, Ceiling and door: 4 lamps (20W) x 2 sides                                                                                |                              |                                                                                                                                                             |                              |
| Refrigerator          |                 | 300W                                                                                                                                                                     |                              |                                                                                                                                                             |                              |
| Heater                |                 | 400W                                                                                                                                                                     | 500W                         | 400W                                                                                                                                                        | 500W                         |
| Humidifier            |                 | —                                                                                                                                                                        | 80W                          | —                                                                                                                                                           | 80W                          |

### 410 ℓ series

| Model                 | White LED       | LH-411PFST-S                                                                                                                                                   | LPH-411PFST-S                  | LH-411PFST-SP                                                                                         | LPH-411PFST-SP                 |
|-----------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------|
|                       | Yellow LED      | LH-411PFDT-S                                                                                                                                                   | LPH-411PFDT-S                  | LH-411PFDT-SP                                                                                         | LPH-411PFDT-SP                 |
|                       | Pink LED        | LH-411PFPT-S                                                                                                                                                   | LPH-411PFPT-S                  | LH-411PFPT-SP                                                                                         | LPH-411PFPT-SP                 |
| Outer dimensions (mm) |                 | W880 × D806 × H1,875                                                                                                                                           |                                |                                                                                                       |                                |
| Inner dimensions (mm) |                 | W670 × D565 × H1,100                                                                                                                                           |                                |                                                                                                       |                                |
| Control system        |                 | Changeover between constant operation and day/night switching operation                                                                                        |                                | Real-time based control (24 hours)/Cumulated hours-based control(Up to 999 hours and 59 minutes/step) |                                |
| Repeat                |                 | —                                                                                                                                                              |                                | 24steps/5patterns with a pattern link function<br>1 ~ 99 times or unlimited                           |                                |
| Control methods       |                 | Three-position control method: Refrigerator and humidifier, ON/OFF control; heater, proportional control                                                       |                                |                                                                                                       |                                |
| Temperature           |                 | +5~50°C ± 1°C (+15~ when all lights on)                                                                                                                        |                                |                                                                                                       |                                |
| Humidity              |                 | —                                                                                                                                                              | 50-90%RH ± 10%RH<br>(15-45°C)* | —                                                                                                     | 50-90%RH ± 10%RH<br>(15-45°C)* |
| Illuminance           |                 | White and Yellow: 0 to 20,000 lx, Pink: 0 to 12,000 lx<br>They can be continuously dimmed from 20% to 100% or 0% (all lights off)                              |                                |                                                                                                       |                                |
| Photon flux density   |                 | White:0 to 330 μmolm <sup>-2</sup> s <sup>-1</sup> , Yellow: 0 to 280 μmolm <sup>-2</sup> s <sup>-1</sup> , Pink: 0 to 260 μmolm <sup>-2</sup> s <sup>-1</sup> |                                |                                                                                                       |                                |
| Light source          | Light source    | White: Straight tube sun-like LED lamp (SUNRAY LIGHT)<br>Yellow and Pink: Straight tube LED lamp (PLANTFLEC) for plant growth                                  |                                |                                                                                                       |                                |
|                       | Number of lamps | Left, right, rear and door: 4 lamps (40W) x 4 sides, Ceiling: 6 lamps (20W) x 1 side                                                                           |                                |                                                                                                       |                                |
| Refrigerator          |                 | 300W                                                                                                                                                           |                                |                                                                                                       |                                |
| Heater                |                 | 500W                                                                                                                                                           |                                |                                                                                                       |                                |
| Humidifier            |                 | —                                                                                                                                                              | 80W                            | —                                                                                                     | 80W                            |

\* Temperature sensor: platinum resistance temperature sensor, humidity sensor: polymer film capacitive sensor, humidifier: ultrasonic humidifier.

\* The internal outlet of LPH-411PFST-S and LPH-411PFST-SP can be used up to 0.5A, while all other outlets can be used up to 1A.

\* These chambers are designed to operate in ambient temperatures 15 to 30°C in general. The specified performance may not be achieved depending on actual usage conditions.

\* Supply purified water (distilled or reverse osmosis water) only.

\* The specified performance may not be achieved depending on the combination of temperature and humidity.

\* Depending on the sample, drainage installation may be required.

\* When lighting, temperature setting should be 15°C or higher.

\* Keep 30cm or more clearance at both sides and the back of the product to prevent exhausted heat from being trapped and hindering the cooling function.

\* The specified control accuracy for temperature and humidity applies when lights off.

\* For long-term operation under conditions of high temperature and high humidity, please contact us for confirmation.

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