

**Fitotron**

**WEISS**  
Gallenkamp

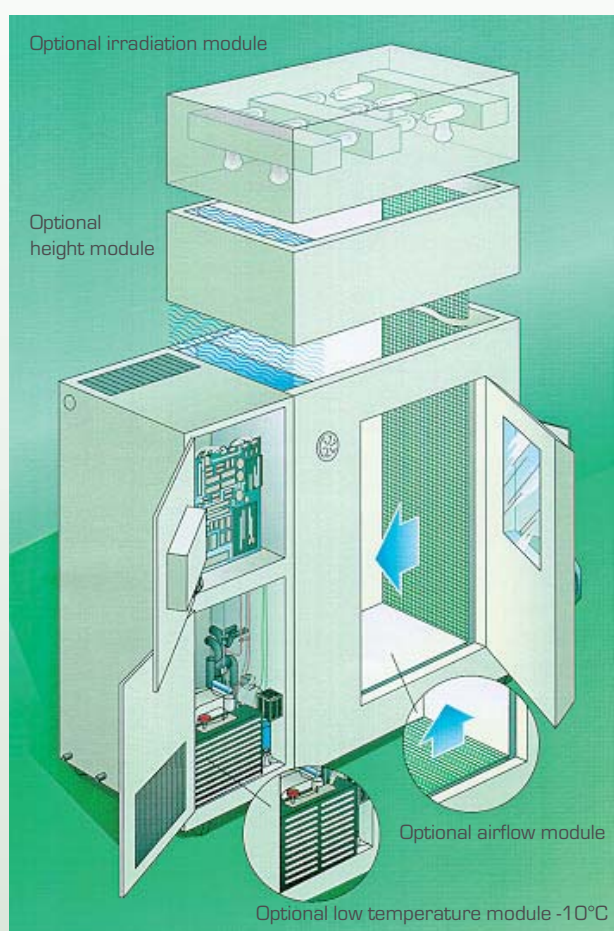
# High Specification Plant Growth Chambers



# High Specification Plant Growth Chambers

The Fitotron® High Specification Plant Growth Chamber (HGC) is based on a modular design. Should your research requirements change then the chamber can be adapted to the new situation by exchanging or retrofitting individual modules.

As well as 3 chamber sizes, it is possible to modify light source and intensity, airflow direction, temperature range and internal maximum growing height. This flexible design allows the chambers to be modified for different applications and as such provides a 'future-proof' investment.



## Applications include:

- Wheat
- Maize
- Cotton
- Rice
- Large plants grown through to maturity
- Plants requiring high light and/or high humidity levels

### Standard performance with lighting module 1:

Temperature range	+5°C to +45°C lights off +10°C to +45°C lights on
Humidity range	40%RH to 95%RH lights off 40%RH to 85%RH lights on
Lighting type	Fluorescent, dimmable
Lighting intensity	450 $\mu\text{mol.m}^{-2}\text{s}^{-1}$ @ 200mm
Airflow:	Horizontal or vertical

### Performance with lighting module 2:

Lighting intensity	900 $\mu\text{mol.m}^{-2}\text{s}^{-1}$ @ 350mm
Lighting type	Fluorescent, dimmable

### Performance with lighting module 3:

Lighting intensity	700 $\mu\text{mol.m}^{-2}\text{s}^{-1}$ @ 500mm
Lighting type	Metal halide

### Performance with lighting module 4:

Lighting intensity	1000 $\mu\text{mol.m}^{-2}\text{s}^{-1}$ @ 500mm
Lighting type	Metal halide

### Performance with low temperature module:

Temperature range	-10°C to +45°C lights off
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### Additional options:

- Adjustable height module 1, to raise or lower module 1
- Height module, extending height by 500mm

## HGC 0714 Plant Growth Chamber



**Growth area**

0.7m<sup>2</sup>

### Lighting

The HGC range uses a combination of different lamps to simulate a daylight spectrum. Through the use of high frequency fluorescent lamps, dimming of light intensity from 100% to 10% is standard. Dawn and dusk are simulated by the addition of a high proportion of red light.

As an option, the height of the lamps can be adjusted using an external motor. This ensures that the growing conditions remain constant and the plants are not disturbed.

Metal halide lamp modules with higher light intensity of 700 and 1000  $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$  @ 500mm are available. The lamps are installed in a separate air-cooled lamp compartment, together with the UV light source.

In addition to these a dimmable fluorescent lighting module is also available, providing 900  $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$  @ 350mm.

An additional height module capable of extending the height by 500mm is also available.

### Airflow

Either horizontal or vertical airflow can be specified. The plenum wall and floor design ensures a low air velocity whilst guaranteeing a high degree of temperature/humidity.

## HGC 1014 Plant Growth Chamber



**Growth area**

1.0m<sup>2</sup>

### Low Temperature

An optional low temperature module is available which is capable of a temperature of -10°C.

### Applications include:

- Wheat
- Maize
- Cotton
- Rice
- Large plants grown through to maturity
- Plants requiring high light levels and/or high humidity levels

## HGC 1514 Plant Growth Chamber



**Growth area**

1.5m<sup>2</sup>

# High Specification Plant Growth Chambers

## Specifications

	HGC 0714	HGC 1014	HGC 1514
Internal dimensions (mm) w x d x h	970 x 750 x 1400	1270 x 750 x 1400	1990 x 750 x 1400
External dimensions (mm) w x d x h (without door)	1980 x 850 x 1970 (without door)	2280 x 850 x 1970 (without door)	3000x 850 x 1970 (without door)
Growth area m <sup>2</sup>	0.7	1.0	1.5
Growing height m	1.4	1.4	1.4

We specialise in the design and build of bespoke Plant Growth Chambers where performance requirements fall outside the standard range. Over many years, we have developed the knowledge and experience to provide turnkey projects to major research and educational establishments worldwide.

## Weiss Gallenkamp:

- Works with clients, architects and design consultants to define user specifications and engineering requirements.
- Designs cost-effective solutions.
- Manages the implementation in consultation with all other contractors.

## Examples of our capabilities for bespoke facilities include:

### Extremes of Temperature

Arctic and tropical climates can be accurately simulated in Fitotron<sup>®</sup> Plant Growth Chambers.

### Lighting Capabilities

As part of our standard and bespoke range, we offer a variety of lighting including UV, fluorescent, LED and metal halide, which can be fitted to give high light intensities.

## Service and Support

The training undertaken by our agents and engineers is of the highest standard in the industry, ensuring that our customers are supported by the highest level of technical expertise and as such can be assured that their equipment will perform to the standards required at all times.

Our global network of engineers enables us to respond to any technical query, ensuring that our customers get the maximum benefit from their equipment.



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