Climatron®

By Thermoline Scientific

PREMIUM SERIES PLANT GROWTH CHAMBERS

(+5°C TO +40°C) (AMBIENT TO 90% RH)

(Image: CLIMATRON-2600)

- Temperature range +5°C to +40°C (Lights Off)
- Temperature range +10°C to +40°C (Lights On)
- CO^2 range up to 3000 PPM
- Ezy-Lift Hydraulic Adjustable Floor Level (with turn handle)
- Uni-Flow perforated flooring
- Large growing volume of 2600 Litres
- Gro-Sensor adjustable sensor box
- User friendly 7" colour touch screen
- LCD screen and internal monitoring camera (optional)

AUSTRALIAN MADE®

Thermoline have been designing and manufacturing plant growth cabinets in our Australian facility for over 40 years.

Thermoline's Climatron plant growth range is trusted by leading organisations across Australia and around the world.

The Climatron Premium Series provides precise control of the chamber environment including temperature, humidity, CO^2 (Optional) and lighting for the optimum growth of plant material.

Our new and improved control system provides users with increased flexibility while maintaining a simple to use platform.

Climatron plant growth chambers can be used for agricultural and life science applications including, but not limited to, plant production, bio-engineering, soil and food sciences and research applications.

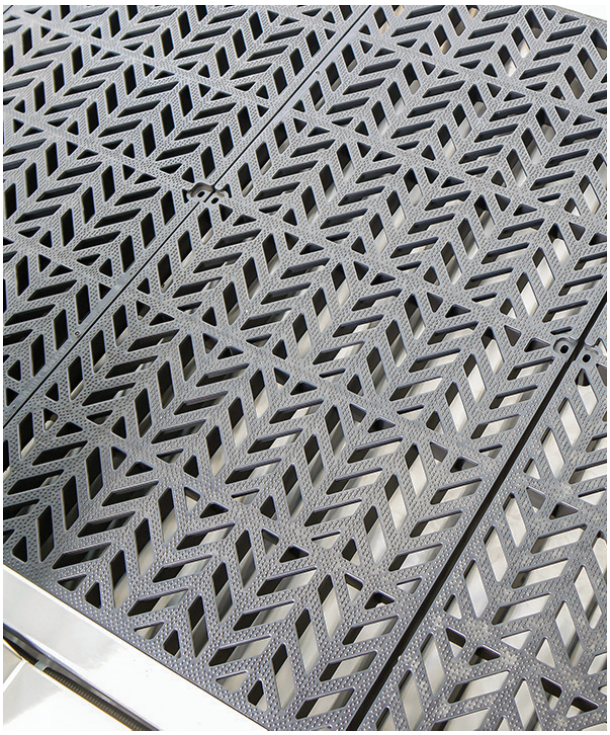
Construction and Standard Features

Premium Series chambers are constructed with a stainless steel under floor pan and air plenum. The working interior is manufactured from highly reflective white aluminium, whilst the exterior is manufactured from scratch resistant PVC coated steel. All chambers are insulated with PIR panel.

Thermoline's "Uni-Flow" even air distribution system is manufactured from polypropylene for greater moisture and chemical resistance against fertilizers and potting mixture.

The Uni-Flow flooring also allows for large pots to be placed on the floor without restricting the air-flow through the chamber allowing for a more uniform temperature throughout the chamber regardless of the size of the plants being grown.

A large optional LCD screen and camera system allows for easy viewing inside the cabinet without opening the front doors.



Ezy-Lift Hydraulic Floor System

Thermoline's unique "Ezy-Lift" hydraulic floor system allows users to drop the floor height down as the plants grow up.

There's no need to open the access doors or remove the plant material from the cabinet, simply turn the adjustment handle to the required height.

The cabinet floor can be lifted to a maximum height of 1200mm from the lowest point to the highest point. This assists users when adding or removing plant material.

Below: Ezy-Lift hydraulic flooring at different heights on the 2600 litre model.

Highlighted: Adjustment turn handle.

Flooring at its lowest point

Flooring at half way point

A MODERN GROWING COMPANY

Thermoline's Climatron cabinets are developed for biology, plant biochemistry, plant physiology, genetics, ecology, crop production and protection plus environmental food development. Our range is used in research labs across Australia as well as research organisations in China, Hong Kong and New Zealand.

- Australian made by expert engineers
- High control accuracy
- Proven reliability
- Touch screen microprocessor control
- Ezy-Lift hydraulic adjustable floor level with turn handle
- Uni-Flow perforated flooring

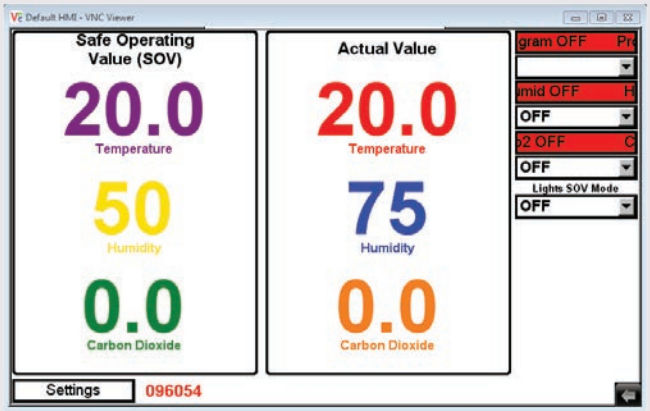
STAR 700 Controller

Climatron cabinets are powered by Thermoline's Select Touch And Run (STAR 700) touch pad control system. The STAR 700 touch pad control system offers easy to program diurnal control of temperature, lighting, humidity and carbon dioxide.

The STAR 700 features a large 154x87mm rugged full colour touchscreen, PC connectivity via ethernet cable and synchronize programmed settings which can be viewed in real time.

The STAR 700 logs the performance of the cabinets for up to up to 800 days.

A live trend screen to allow the operator to quickly check the performance conditions within the cabinet. Alternatively the operator can download the logged data to a USB and then view data via a Excel spread sheet.

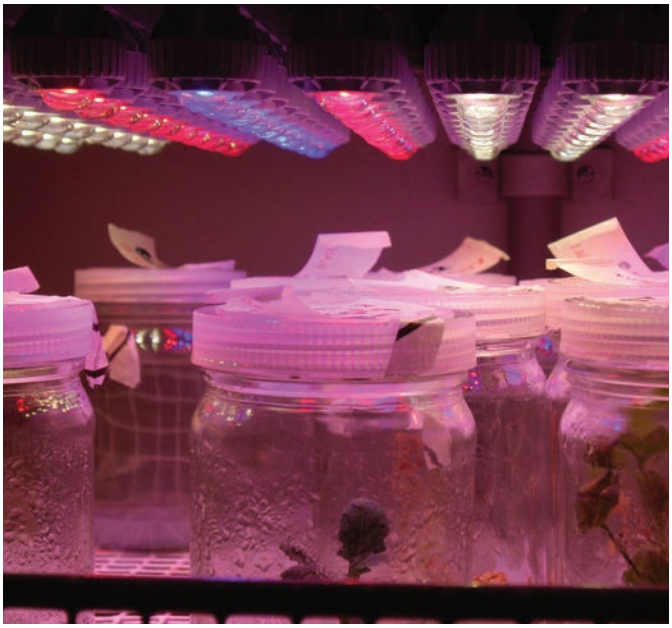


STAR 700 Alarms (optional)

When temperature inside the chamber exceeds the set values by ±5.0°C an alarm event is triggered. Alarms may result in all sources of heating (including Lights) or refrigeration to be isolated. This alarm is auto resetting. Volt free BMS connection is fitted to inform operators of an alarm condition. All out of tolerance conditions can be later viewed in the logged data.

Safe Operating Values

The STAR 700 has a safe operating (power fail) condition. In the event of a power failure the STAR 700 will reset the diurnal cycle and upon power restore, will control the safe operating values. The safe operating values can be set by the operator.



LED Lighting

LED Lighting

Refrigeration Technology

Thermoline's chambers are supplied with the latest in self contained air cooled refrigeration technology. A remote air cooled condenser with hotgas bypass for continuous compressor operations resaults in longer compressor life and close tolerance control conditions. The option of water cooled units is also available.

Our EPSC (Electronic Proportional Switching Control) will also reduce your running costs.

Lighting

When used for plant cultivation in greenhouses, LED technology is not only more energy efficient than conventional lighting, but also makes it possible to accelerate plant growth and improve plant quality. The new LED lighting inside the Premium range Climatron chambers provides the internal space with a proven industry platform that can be individually tailored to suit your specific area of application.

Equipped with highly efficient LEDs in the relevant colours for plant lighting, our SMD modules offer a perfect platform for your lighting solution. Maximum light output is 1500 µmols @ 1m.

See accompanying LED Technical Information Brochure for further details.

Image: LED module mounted on an aluminium heat sink

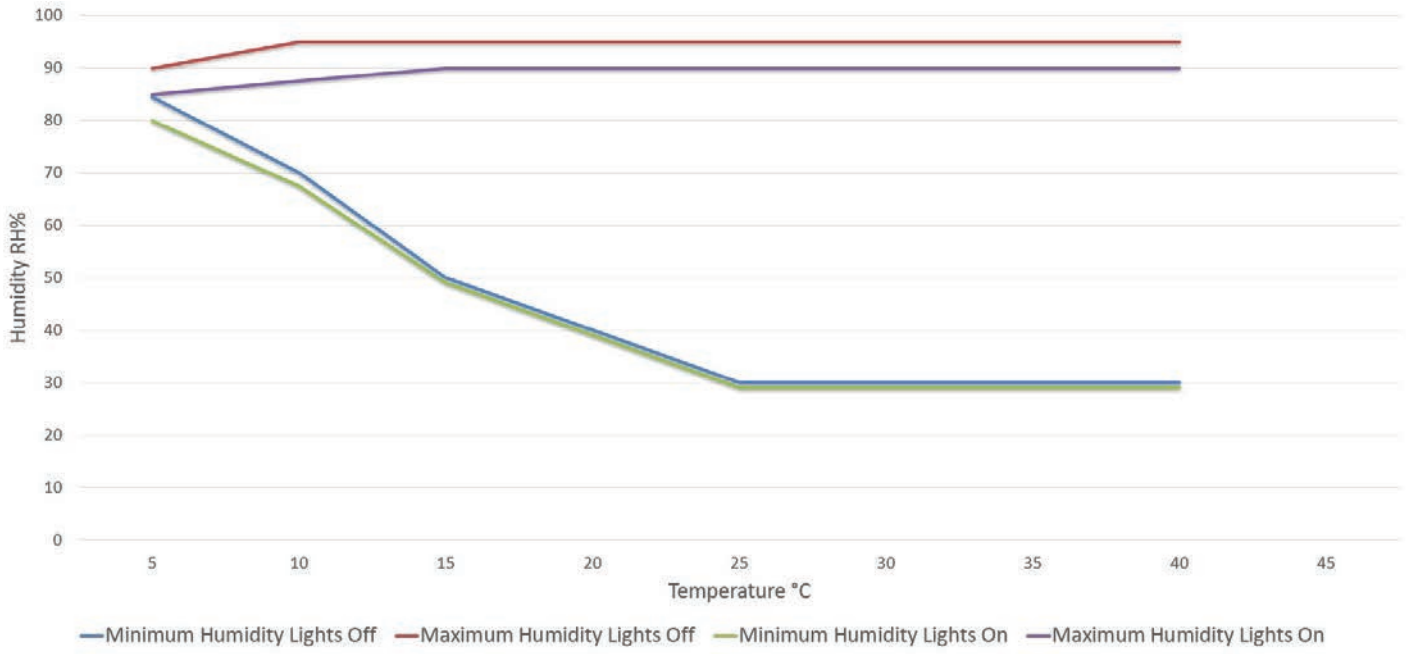
LED Lighting
Monochromatic and full spectrum solutions possible
Highly efficient modular solutions
Highest photon fluxes
Depending on module type, increased degree of protection up to IP68 / IK08 possible
High component densities of SMD LEDs
Customer-specific combination of LED colours or PCB variations possible

Model	Capacity (litres)	Access Doors	Internal Dimensions (WxDxH mm)	External Dimensions (WxDxH mm)	Outdoor Refrigeration Unit
CLIMATRON-2600	2600	2	1800x900x1620 (adjustable)	2890x1140x2245	900x620x1050

Electrical

CLIMATRON-2600 : 415V Neutral 3 Phase supply, 20 Amp Phase, 50Hz

Performance Envelope



Water Feed Tank for Climatron Cabinets

This 55 litre water feed tank allows water to be pumped directly to the cabinet whilst being safely stored on the floor. This specialised tank features a self-priming 12v diaphragm pump, low water protective cut-out, extra-long 6 metre hose and a large opening for easy filling.

Features

- 55 Litre UV stabilised polytuff tank
- Self-priming 12v diaphragm pump
- 2.6L/min open flow, 50psi
- Low water protective cut-out with audible alarm
- Extra-large filter requires less cleaning
- Large opening for easy filling
- Large outlet for quick drainage
- Extra-long 6 metre hose

Tank Model: 55L-WC-PUMP

Thermoline Scientific have been manufacturing and distributing high quality laboratory and scientific testing equipment since 1970. Over this time, Thermoline has grown to be a leading brand in the science industry, with our equipment being used in small and large Hospitals, Universities and Research Laboratories across Australia and the Asia Pacific region.

We're proud to say that we are 100% Australian owned and operated.

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