

**Plant Growth Cabinets** (+5°C to +45°C / Lights Off)

AUSTRALIAN MADE



TPG-1260-TO

**FEATURES**

Thermoline Scientific have been designing and manufacturing plant growth cabinets for over 30 years in our Sydney, Australia factory. Our new and improved control systems provides users with increased flexibility while maintaining a simple to use platform.

The TPG-series upgrade has provided precise control of the chamber environment and when using the advanced custom screen with remote PC control option or the stand alone controllers permits maximum flexibility in developing user protocols. Each chamber can have humidity control, CO<sub>2</sub> control and light plus intensity monitoring fitted as an option.

TPG-series from Thermoline offers 3 separate configurations in single door access, double door access and the larger 4 door access. Each chamber can be used for agricultural and life science applications including but not limited to: plant production, bio-engineering, soil and food sciences, research application.

**TPG-Series Features:**

**Construction:** Self contained free standing and fully insulated using fibreglass and CFC free polystyrene. Internal material is of high reflection white covering providing exceptional uniform light reflection, while the external build is of PVC coated steel.

The floor pan is of stainless steel sloped toward the installed drain outlet. The chambers grow area floor is also of stainless steel, its removable for cleaning and slotted to provide vertical controlled air movement to the critical growth area. Growing area size range from 1260Litres to 6000 Litres

All access door handles and hinges are heavy duty chrome finished. A viewing double glazed window is inbuilt to one or more of the access doors with a light tight cover. Fresh air inlet and exhaust ports allow for greater control flexibility

**Lighting:** Lighting is achieved by the use of both incandescent lamps and high pressure sodium lamps providing the balanced spectrum. The lamps are housed in a purpose built light loft area with a thermal transparent barrier shield between the lamp loft and growing area. The light loft heat can be removed by ducting out if necessary. Light intensity range from 700 micromols/M<sup>2</sup>/Sec to 1000 micromols/M<sup>2</sup>/Sec at 1 metre nominal distance.

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TPG-5000-TH



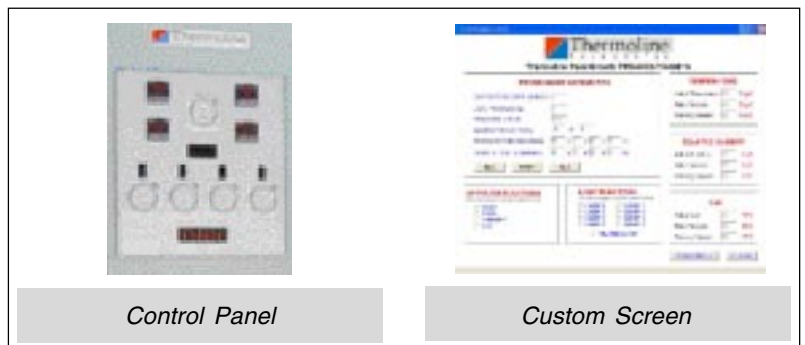
TPG-5000-TH  
INTERIOR AND LIGHT LOFT

**Controllers:** The latest control methods are employed in our TPG series of growth cabinets. Available as Temperature only or Temperature and Humidity control. Thermoline offer two types of controllers, a simple yet proven set point control system with single ramp diurnal control with analogue time clocks or our unique custom screen computer combination method offering greater control flexibility with many new features including, cyclic programming, logging of data, CO<sup>2</sup> control, light intensity display, alarms and remote connection via RS232, RS485 or Ethernet

**Refrigeration:** The cabinets are supplied with a self contained air cooled refrigeration system, TPG-1260-series has the refrigeration system mounted locally within the cabinet, while the larger units have remote air cooled condenser with hot gas bypass for continuous compressor operations resulting in longer compressor life and close tolerance control conditions. Refrigeration gas type is environmental friendly CFC free.

**Quick Specifications:**

- Temperature range +5°C to +45°C (Lights Off)
- Temperature range +10°C to +45°C (Lights On)
- Humidity range (see envelope)
- CO<sup>2</sup> range up to 3000 PPM
- Growing volume from 1260Lt to 6000Lt
- Light intensity from 700µmols to 1000µmols
- Electrical 415VAC three phase
- Water supply required for humidity models
- Drain required for all models



Control Panel

Custom Screen

Thermoline's TPG-series of plant growth chambers are very simple to use. Some units are simple plugin to the power while the larger units require connection to power and a simple refrigeration system connection. Having done this, turn the cabinet on, plug in power, turn the cabinet on, set your conditions, that's it all done... Our control system does the rest. With our EPSC (Electronic Proportional Switching Control) that will reduce your running cost, Thermoline are confident that our cabinets will grow on you, for assistance in model selection to meet your needs, call our engineers today. Thermoline also manufacture smaller single door upright diurnal incubators suited for small research groups and application contact us for further information or refer to section I-7 and I-8 in our catalogue.

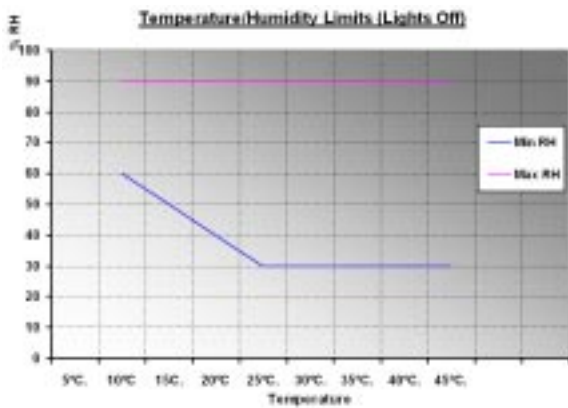
ORDER CODE	LTR. CAP.	ACCESS DOORS	CONTROL	DIM. INT HxWxDcm	DIM. EXT HxWxDcm	LIGHTING		INTENSITY MICROMOLES
						INCANDESCENT	HIGH PRESSURE SODIUM	
TPG-1260-TO	1260	1	TEMP ONLY	150x120x70	202x192x87	4	5x400 Watts	700
TPG-1260-TH	1260	1	TEMP AND HUMIDITY DIURNAL	150x120x70	202x192x87	4	5x400 Watts	700

**Plant Growth Cabinets (+5°C to +45°C / Lights Off)**

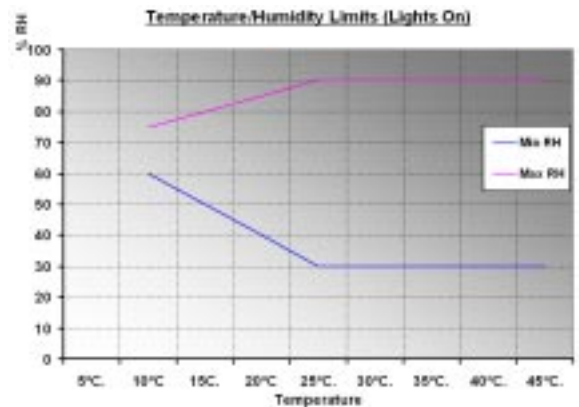
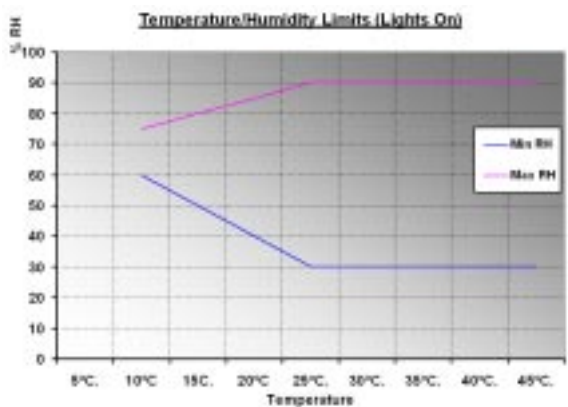
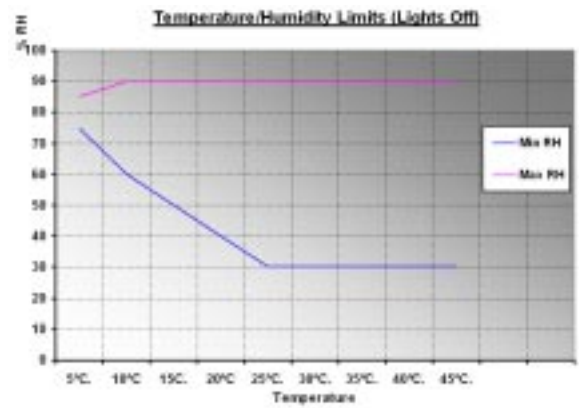
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ORDER CODE	LITRE. CAPACITY.	ACCESS DOORS	CONTROL	DIM. INT HxWxDcm	DIM. EXT HxWxDcm	LIGHTING	
						STANDARD	LAMPS
						micromoles/M2/sec at 1M nominal	
TPG-2400-TO	2400	2	TEMP ONLY	149x180x90	217x271x106	1000	5x600 Lucalox
TPG-2400-TH	2400	2	TEMP AND HUMIDITY DIURNAL	149x180x90	217x271x106	1000	5x600 Lucalox
TPG-2900-TO	2900	2	TEMP ONLY	180x180x90	247x271x106	1000	5x600 Lucalox
TPG-2900-TH	2900	2	TEMP AND HUMIDITY DIURNAL	180x180x90	247x271x106	1000	5x600 Lucalox
TPG-5000-TO	5000	4	TEMP ONLY	153x237x140	221x333x167	1000	8x1000 Lucalox
TPG-5000-TH	5000	4	TEMP AND HUMIDITY DIURNAL	153x237x140	221x333x167	1000	8x1000 Lucalox
TPG-6000-TO	6000	4	TEMP ONLY	180x236x140	250x332x167	1000	8x1000 Lucalox
TPG-6000-TH	6000	4	TEMP AND HUMIDITY DIURNAL	180x236x140	250x332x167	1000	8x1000 Lucalox

Performance Envelope for TPG-1260-TH



Performance Envelope of TPG-2400-TH to TPG-6000-TH



**Electrical:**

Models TPG-1260-TO and TH - 415V Neutral 3 phase supply 20amp/phase 50Hz  
 Models TPG-2400 and TPG-2900 - 415V Neutral 3 phase supply 20amp/phase 50Hz  
 Models TPG-5000 and TPG-6000 - 415V Neutral 3 phase supply 32amp/phase 50Hz

**Plant Growth Cabinets, CO2 Concentration Controller**

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CO2 Control Box

CO2 Sensor

**FEATURES**

The Thermoline TCO2-SA stand alone Control Unit has been specially designed to control CO2 concentration for the growth of plants. The CO2 Control Unit is capable of controlling concentrations as high as 3000ppm (parts per million), and as low as 100 ppm above ambient concentrations (approx 400-450 ppm).

Because there are a number of varying factors determining how well the instrument will control the flow of CO2 to the controlled environment cabinet or room, the operator has the ability to make adjustments to the CO2 flow and the “auto-tune” feature on the CO2 controller allows the instrument to select the optimum parameters for accurate and stable control.

The controller box comes complete with CO2 sensor cable either 2.6 or 10 metres in length onto which the removable sensor attaches, plus a 6 or 10 metre length of plastic gas supply line which connects to a main gas supply or cylinder.

The main control is a Eurotherm 3216 digital instrument with easy to read display. The “auto-tune” feature is promoted to the front screen for easy access.

The features above allow the operator to adapt the Model TCO2-SA to any number of different size growth enclosures and achieve accurate CO2 conditions.