

PLANT GROWTH CHAMBERS

(+5°C TO +45°C / LIGHTS OFF)

Image: TPG-6000-TH



Thermoline Plant Growth Chambers

- Temperature range +5°C to +45°C (Lights Off)
- Temperature range +5°C to +45°C (Lights On)
- TPG-1260 only: +10°C to +45°C (Lights On)
- CO² range up to 3000 PPM
- "Ezy-Lift" Hydraulic Adjustable Floor Level (with turn handle)
- "Uni-Flow" perforated flooring
- Growing volume from 1260 litres to 6000 litres
- Light intensity from 700µmols to 1200µmols
- "Gro-Sensor" adjustable sensor box

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Thermoline

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HIGHER STANDARDS IN SCIENCE

PRODUCT DETAILS

Thermoline Scientific have been designing and manufacturing plant growth cabinets for over 30 years in our Sydney, Australia factory. Our new and improved control system provides users with increased flexibility while maintaining a simple to use platform. The TPG series provides precise control of the cabinet environment including temperature, humidity, CO² and lighting for the optimum growth of plant material.

The TPG series of Thermoline Plant Growth Cabinets are available in five separate sizes incorporating three different configurations. A single door, TPG-1260, double door TPG-2400 & TPG-2900, and the larger four door TPG-5000 and TPG-6000.

All Thermoline Plant Growth Cabinets 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.



Above: Ezy-Lift adjustable floor level



Above: Adjustable height Gro-Sensor with interior lighting

Construction

All Thermoline TPG Series cabinets are constructed with a Stainless steel under floor pan and air plenum. The working interior is manufactured from High Reflective White Aluminium, whilst the exterior is manufactured from scratch resistant PVC Coated steel. All cabinets are insulated with polystyrene.

Thermoline's unique "Ezy-Lift" hydraulic floor system and "Uni-Flow" even air distribution system are also manufactured from Stainless Steel for greater corrosion resistance against fertilizers and potting mixture.

The "Ezy-Lift" Hydraulic flooring system allow the user to adjust the floor height down as the plants grow without the need to open the access door or remove the plant material from the cabinet. Each "Ezy-Lift" floor system can hold a massive 300kg of plant material.

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

Lighting

Standard lighting in all Thermoline TPG series Plant Growth Cabinets is achieved by both Incandescent and High Pressure Sodium Lamps situated in a uniform manner to provide an even distribution of light through the work interior. The Incandescent, along with the High Pressure Sodium Lamps, give a level of light in the Orange to Red Light Spectrum (600-700nm). Thermoline's unique lighting system also allows each of the High Pressure Sodium lamps to be replaced with Metal Halide lamps of the same wattage without the need to replace any of the lighting equipment. This allows the end user more versatility in being able change the ratio of spectral intensity by mixing the amount of High Pressure Sodium lamps and Metal Halide lamps.

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 700micromols/M²/Sec to 1200micromols/M²/Sec at 1 metre nominal distance.

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PRODUCT DETAILS

Image: TPG-1260-T0



Controllers/Sensors

Via Thermoline's "Gro-Sensor" system, the user can control the temperature and humidity exactly where the plant foliage is located in the cabinet. The easily adjustable spring balanced "Gro-Sensor" has been designed to allow the customer to easily adjust the sensor as the plant grows.

The latest control methods are employed in our TPG series of growth cabinets which are available as "temperature only" or "temperature and humidity control" with the option of CO² 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, CO² 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 model has the refrigeration system mounted locally within the cabinet, while the larger units have remote air cooled condenser with hotgas bypass for continuous compressor operations resulting in longer compressor life and close tolerance control conditions. The option of water cooled units is also available (not available for model TPG-1260).

Thermoline's TPG series plant growth chambers are very simple to use. Some units are simple plug in to the power, while the larger units require connection to power and a simple refrigeration system connection. Having done this, plug in power, turn the cabinet on, set your conditions our control system does the rest. Our EPSC (Electronic Proportional Switching Control) will also reduce your running costs. Thermoline also manufacture smaller single door upright diurnal incubators suited for small research groups and applications.

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SPECIFICATIONS

Model	Capacity (litres)	Access Doors	Control	Internal Dimensions (HxWxD mm)	External Dimensions (HxWxD mm)
TPG-1260-TO	1260	2	Temperature Only	1500x1200x700	2020x1920x870
TPG-1260-TH			Temp. & Humidity Diurnal		
TPG-2400-TO	2400		Temperature Only	1490x1800x900	2170x2710x1060
TPG-2400-TH			Temp. & Humidity Diurnal		
TPG-2900-TO	2900		Temperature Only	1800x1800x900	2470x2710x1060
TPG-2900-TH			Temp. & Humidity Diurnal		
TPG-5000-TO	5000	4	Temperature Only	1530x2370x140	2210x3330x1670
TPG-5000-TH			Temp. & Humidity Diurnal		
TPG-6000-TO	6000		Temperature Only	1800x2360x1400	2500x3320x1670
TPG-6000-TH			Temp. & Humidity Diurnal		

Model	Lighting		Ezy-Lift Weight Capacity (kg)
	Standard	Lamps	
	Micromols / M2 / Sec at 1M nominal		300
TPG-1260-TO	700	5x400 Lucalox	
TPG-1260-TH			
TPG-2400-TO	1200	5x1000 Lucalox	
TPG-2400-TH			
TPG-2900-TO			
TPG-2900-TH			
TPG-5000-TO	1000	8x1000 Lucalox	2 x 300
TPG-5000-TH			
TPG-6000-TO			
TPG-6000-TH			

Electrical

Models TPG-1260 : 415V Neutral 3 Phase supply, 10 Amp Phase, 50Hz

Models TPG-2400 and TPG-2900 : 415V Neutral 3 Phase supply, 20 Amp Phase, 50Hz

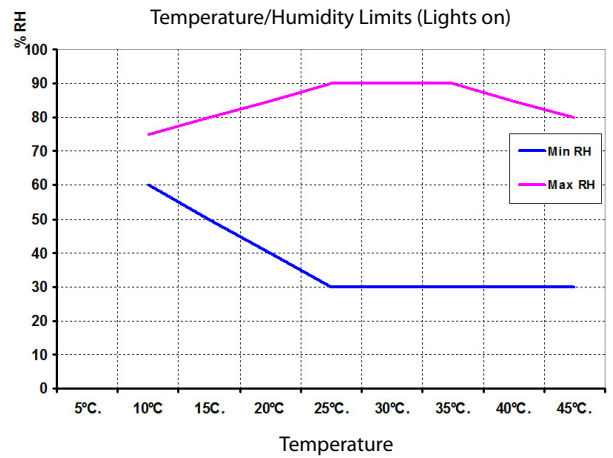
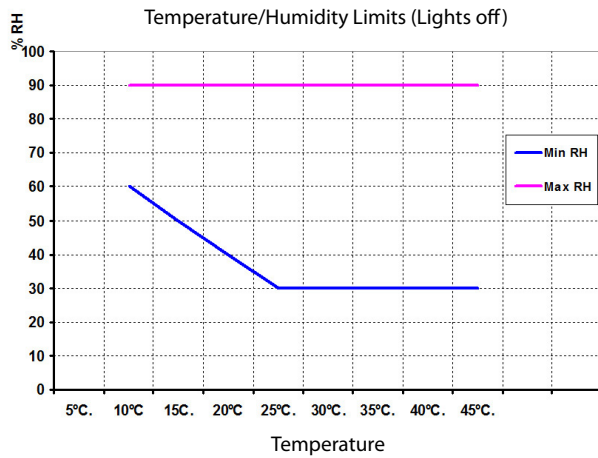
Models TPG-5000 and TPG-6000 : 415V Neutral 3 Phase supply, 32 Amp Phase, 50Hz

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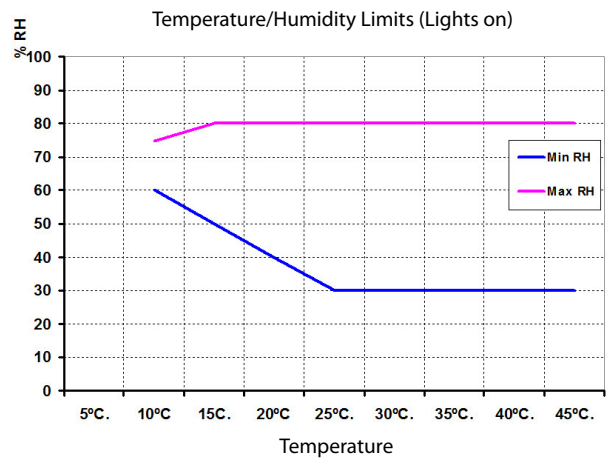
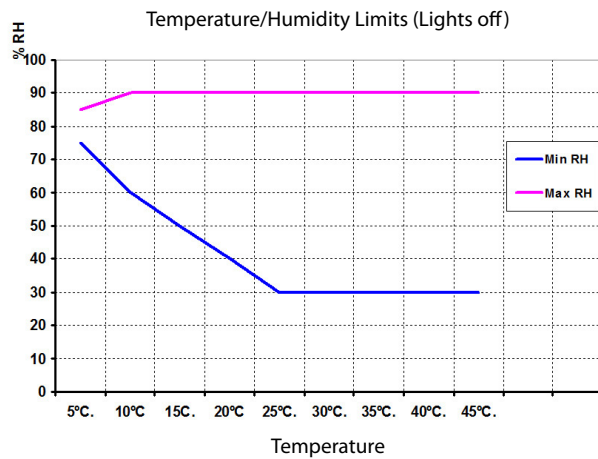
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SPECIFICATIONS

Performance Envelope for TPG-1260-TH



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



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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