

Phillips make a good 423 Watt lamp called a SON T AGRO 400 Watt. These lamps use around 4cents per hour.

General Electric also make good lamps. they make a 400watt, 600watt and 1000 watt LucaGrow Lamp, and use 4cents, 6cents and 12 cents of electricity per hour respectively.

When no other sunlight or lighting is available, we recommend 400 Watt lamps for an area of up to 1 meter by 1 meter as per the chart below. For 600 Watt lamps for an area of 1.5 meters by 1.5 meters.

Remember side-lighting can always assist plants to grow higher.

The reflector design varies depending on the height of the plants and the area requiring illumination. Highly recommend that you seek advice regarding reflector design.



Son T Agro 400W

3. Reflective walls

It is very important if you want good results to make your growroom light tight. No light getting in or out. Strangely enough, light getting into a growroom when the light is off can extend your growing time by a great deal.

Make your light count.

A light and reflector only illuminate the top of the plant. To get light to the lower leaves you need to bounce the light off the wall or add side lighting. If you are in a room that is bigger than the lighting you are setting up, such as a 400W in a 3m x 3m room, you need to have a reflective plastic curtain to light up and ventilate only the area the light covers, in this case 1m x 1m, and to keep the light concentrated in that area.



Control box or ballast

Control Boxes all look the same. THEY ARE NOT. Price is a good guide. A good ballast will be completely safe, will not emit noise, or large amounts of heat. They will match the lamp precisely, and will ensure the light

levels are as close to 100% output of the lamps design. Cheap control boxes may not even run reliably, emit a loud hum, and get too hot to touch as well as failing to put the correct power to the lamp resulting in lower light levels. Please ask for advice before buying any equipment built in the back rooms of hydroponic stores. Imagine if I sold you a five litre bottle of nutrient and it was missing 20% (1 litre) of nutrient. Some cheap ballasts output 20% below lamps nominal rating. This will reduce yield.

4. Ventilation—See also Ventilation Chart

Select a fan that will keep the area between 20 and 30 degrees Celsius. Plants also need fresh quantities of Carbon Dioxide. Ventilation will stop grow rooms becoming excessively hot, as well as supplying life giving fresh air.

First, you will need an inlet fan to let cool air into the growing area. This is best situated low, as cool air is heavy and sinks closer to the ground.

Second, you will need an exhaust fan to draw hot air and CO2 weak air out of the growing area. This is best located high as Hot air rises to the top of the growing area.

Finally, you will need an oscillating fan to blow fresh air into



Ventilation guidelines

Total lighting power used	Typical room size	Incoming air 0-10 deg.C cold/cool growroom	Incoming air 10-20 deg.C comfortable growroom	Incoming air 20-25deg.C warm growroom	Incoming air 25-30 deg.C hot room	Incoming air 30+ deg.C humid uncomfortably hot growroom
Up to 400W	1m x 1m (x2.5high)	10 changes for normal CO2 +heater	10-20 changes + heater	20-100 air changes	100-200 air changes	Airconditioning with 10 air changes per hour <u>or</u> 200+ air changes per hour
400W to 600W	1.5m x 1.5m (x2.5high)	As above	As above	As above	As above	As above
600W to 1000W	1.7m x 1.7m (x 2.5high)	As above	As above	As above	As above	As above
1000W to 2000W	3m x 1.5m (x 2.5high)	As above	As above	As above	As above	As above
2000W plus (consultation recommended)	6sq.meters+ (x 2.5high)	As above	As above	As above	As above	As above

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hydrocentre.com.au / Nerang Hydroponic Centre Shop 17/39 Lawrence Drive Nerang Q 4211 ph (07) 5527-4155
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