

CHOOSING YOUR GROW LIGHT

Choosing your grow light is the most important decision you will make when setting up your grow room. For the inexperienced gardener, it may also seem like the most confusing purchase. We at New Earth understand that your grow light is an important investment and we are committed to making sure that you get the grow light that is best for your priorities, budget, and plans for its use; not only today, but also throughout the upcoming years. That is why we provide free, individual consultations prior to, and after your purchase, personally stand behind every manufacturer's warranty, and take care of most light repairs on site for our customers. We have over 27 years of experience in the industry, and over 100 years of combined, practical experience in house. We are committed to your growing success!

Questions To Consider

What size grow light do I need?

The size of the garden area will determine the wattage you need. Assuming your plants will get no sunlight, a 1000 watt light will cover about 7 x 7 feet of growing area. A 600 watt will cover 6 x 6 feet, a 400 watt will cover 4 x 4 feet, and a 250 watt will cover 3 x 3 feet of high-light gardening area. Keep in mind that for high light plans, more light is always better.

What should be my priority, budget or performance?

Hey, sometimes you just want the least expensive way into any hobby, and that is not uncommon. A grow light is an investment, with an expected life of five to ten years. We have seen lights come in for repair that were purchased at our original store in Shepherdsville, which we moved from in 1992! If budget is your priority, we have a large selection of entry-level lights that we guarantee you will be totally amazed by their performance for the cost! When performance is your top priority, simply consider your other factors such as area and use, then buy top of the line. Since a grow light is a long term investment, if you are a novice, let us help you sort things out prior to your purchase if you feel uncertain. A quick consultation can get you into the light that best suits your needs.

Do I need an enclosed area or tent?

Short answer is no, you do not need an enclosed area. These lights can make beautiful and functional displays in your home growing herbs, flowers, veggies and salad greens in your kitchen or any spare area of your home. That being said, enclosed areas can solve problems and allow you to reflect the light back into your garden area. It can also keep little rascals like cats and other housepets out of your grow area. Small, enclosed areas can experience heat build up quickly, especially with larger lights. If heat is a consideration, you may want to think about using air cooled hoods to vent off heat and keep your growing area at optimum temperature levels. LED and T5 fluorescent grow lights are also lower heat options.

Do I have future plans for expansion?

If you hope to expand your grow room quickly, we suggest purchasing up rather than down. It is almost impossible to have too much light.

Metal Halide or High Pressure Sodium?

Rule of thumb is metal halide light, which is higher in the blue spectrum, will maximize vegetative growth. High pressure sodium lamps are higher in the red spectrum, which maximizes flowering. Many people purchase ballasts which will operate both metal halide and high pressure sodium lamps, then purchase both lamps for their system, switching between the lamps depending on plant growth cycles. This is ideal for many gardens. The most popular "single bulb" solution for most gardens is the agricultural grade high pressure sodium lamps, such as our Plantmax and Hortilux lamps. When planning to grow only microgreens, lettuces and many herbs that are not flowering, the standard solution is to use metal halide light.

Start With Your Ballast

In order to choose an HID grow light, you must first choose the ballast. That is an electric component which provides and controls the flow of energy through the system in order to provide a strong, steady light. Two different types of ballasts can be found, electronic (or digital) and electromagnetic (magnetic). Both do the same job, but have different features.

Electronic ballast provide faster start up, igniting the lamp with a "soft start" that extends the life of the lamp. Digital grow light ballasts are 7% - 11% more energy efficient. They are "smart ballasts", igniting either MH or HPS. Whether you use a 120V or 240V power cord, it will detect and respond the cord to utilize the appropriate voltage.

Magnetic ballast, on the contrary, tend to produce a much higher intensity burst then gradually reduce light output.

Another major plus of electronic ballast is a lower operating temperature than an electromagnetic ballast, because the device is subjected to electrical resistance heat.

Electronic ballasts are quieter than a magnetic one, which produces a characteristic buzzing. This is not loud, but it is audible and some people prefer not to have the constant buzz.

As for consumption, both ballasts absorb the same level of power, with just a slight edge for the electromagnetic ballast.

Electronic ballasts have clear advantages over electromagnetic ones. Slightly less efficient and quiet, magnetic ballasts still present a major advantage: their price. So let price be your guide. We have sold magnetic ballast for 27 years and have many thousands of satisfied growers! We think you will be very pleased with whatever ballast you choose. We only carry high quality products that we can stand behind 100%, so your ballast is backed with our satisfaction guarantee.

Electronic Ballasts

The **Galaxy® Grow Amp® 120/240 volt** ballasts are the only electronic ballasts in the industry that are not just dimmable, but have an exclusive "Select-A-Watt" feature. Dimming ballasts work on percents of power. They are not exact, and this can cause stress on lamps and dramatically shorten lamp life. The Galaxy Grow Amps have a feature that allow you to select exact wattage and properly drive all appropriate wattages of lamps, either metal halide or high pressure sodium. You pay more for this ballast, but in time you will save money from your lamp replacement costs. Both ballasts feature Turbo Charge®, which increases lamp output 10% This is helpful for getting the most out of an aging bulb. Although some growers use Turbo Charge for other purposes, we do not recommend using this feature except for maximizing your aging bulbs, as we have found this dramatically reduces the life of newer bulbs. Galaxy® Grow Amp® ballasts come pre-wired with a Sun System® lamp cord receptacle. They are compatible with all reflectors. Includes a 6 foot 120 volt power cord. Fan cooled, lightweight, very quiet, compatible with double ended lamps. 3 year warranty.

Galaxy Grow Amp 1000/600/400/Turbo \$259.99

Galaxy Grow Amp 600/400/Turbo \$259.99

UltraGrow® 400/600 watt Dimming ballasts give you all the benefits of an electronic ballast at a lower cost. This "smart ballast" is up to 11% more energy efficient and will ignite both metal halide and high pressure sodium lamps. It is a dimming ballast, which means you can use it to ignite both 600 watt and 400 watt lamps, metal halide and high pressure sodium. Although it can be used to reduce output of a 600 watt lamp, with the dimming feature, we do not recommend this usage as it will shorten the life of your bulbs. Many will use this ballast to operate a 400 watt metal halide lamp for early growth, then switch to a 600 watt high pressure sodium for blooming. Super Lumen feature is a boost that we recommend that is used to increase output of aging bulbs. If you want a dependable, lower cost, dimming ballast, this is a great choice. UL listed and FCC compliant. 5 year warranty.

UltraGrow® 400/600 Ballast \$169.99

Energy Station® 1000 watt Cali Ballast

The 1000 watt Cali grow light ballast is a dimmable ballast, which allows you to reduce your output voltage from 100% to either 75% or 50%. The benefit of this feature is that you can run either a 1000 watt, 600 watt, or 400 watt lamp with this ballast, HPS or Metal Halide. Although many growers will use this feature to reduce output of their 1000 watt bulbs, we do not recommend this use as the lamp life will be dramatically reduced. We suggest you use a 1000 watt lamp at 100%, a 600 watt lamp at 75% strength, and a 400 watt lamp at 50% strength. These features at this price is a bargain! Set the desired percentage on your ballast and then use the appropriate wattage lamp. It is compatible with every reflector we carry. Three year manufacturer's warranty.

Energy Station® 1000 watt Cali Ballast \$169.99

WellThink® 400 watt Dimmable Ballast gives you all the benefits of an electronic ballast: up to 11% more efficient, and drives different wattages and types of HID lamps, and uses either 120V or 240V power sources. The Welthink will operate 400 watt metal halide or high pressure sodium lamps, or dial it down to use a 250 watt MH or HPS lamp. Runs on 120V or 240V, includes 120V power cord and a 3 year warranty.

WellThink® 400 watt Dimmable Ballast \$139.99

What is the benefit of a Double Ended (DE) Lamp?

Full spectrum DE lamps focus on the red component for increased photosynthetic response. They offer improved PAR values and increased PAR/lumen maintenance. This means your lamps will put more usable light out, longer, than with typical HPS replacement lamps.

What is PAR?

PAR stands for Photosynthetically Active Radiation. PAR readings indicate light intensity within the spectrum that plants use most to photosynthesize (excluding UV light) from 400 to 700 nanometers, which covers both the blue and red spectra of light. It will indicate how much light is USABLE for your plants.

Magnetic Ballasts

Harvest Pro® 120/240 volt ballasts are compatible with all Sun System® brand reflectors as well as other branded reflectors. Louvered end plates and heat slots help cool the ballast for years of trouble-free use! Aluminum ballast enclosure is engineered to dissipate heat and keep components cool. Heavy duty handle for easy carrying or wall hanging. A barrier wall between ballast and the capacitor/ignitor helps keep the critical components cool. Lower temperatures mean better reliability & longer life. EZ Cap Door offers easy access to the capacitor in the event it needs to be replaced. 5 year warranty!

**Harvest Pro® 120/240 volt 1000 watt Switchable
Runs 1000 watt MH or HPS lamp \$169.99**

**Harvest Pro® 120/240 volt 600 watt Switchable
Runs 600 watt HPS or MH conversion lamp \$169.99**

Hard Core® 120/240 volt ballasts feature exposed ballast design which is compact and runs cool! Hard Core® offers superior cooling capabilities while extending the longevity of the capacitor and ignitor. New dual universal lamp cord receptacle is compatible with all Sun System® brand reflectors as well as other branded reflectors. Powder-coated steel housing with louvered venting and solid design helps protect internal components. Rubber feet reduce noise & vibration. Excellent ballast quality with high temp 150°C wire connections will provide years of trouble-free operation. Removable stainless steel handles allow easy handling. 1 year warranty

**Hard Core® 120/240 volt 1000 watt Switchable
Runs 1000 watt MH or HPS lamp \$119.99**

**Hard Core® 120/240 volt 600 watt Switchable
Runs 600 watt HPS or MH conversion lamp \$119.99**

Bulbs/Lamps

DigiMax® Double Ended (DE) 1000 watt HPS Lamp \$89.99

Ushio Double Ended Lamp 1000W PRO-PLUS \$159.99

Plantmax High Pressure Sodium

250 watt \$29.99

400 watt \$29.99

600 watt \$59.99

1000 watt \$59.99

Eye Hortilux® Super HPS - High Pressure Sodium Lamps

250 watt \$89.99

400 watt \$94.99

600 watt \$119.99

1000 watt \$119.99

Plantmax 4200K Metal Halide Grow Lamp

250 watt \$29.99

400 watt \$29.99

1000 watt \$49.00

Plantmax 7200K Metal Halide Grow Lamp

250 watt \$39.99

400 watt \$49.99

600 watt \$69.99 (conversion lamp HPS to MH)

1000 watt \$69.99

Eye Hortilux® Blue Daylight Metal Halide Lamps

250 watt \$124.99

400 watt \$129.99

600 watt \$149.99

How often should I replace my lamps?

For optimum light output and growth, you should replace your HID lamps after the equivalent of a year of use at 16 hours per day, or 6000 hours of use.

Best Selling Ballast/Reflector/Lamp Combinations

GOOD

WellThink® 400 watt Dimmable Ballast, Econowing® Reflector, Plantmax® 400 watt HPS Lamp \$205.99

WellThink® 400 watt Dimmable Ballast, Econowing® Reflector, Plantmax® 400 watt 4200 MH Lamp (vegetative growth) and Plantmax® 400 watt HPS Lamp (flowering) \$229.99

Hard Core® 120/240 volt 600 watt Switchable Ballast, Econowing® Reflector, Plantmax® 600 watt HPS Lamp \$215.99
*****Add in a MH conversion lamp for veg for only \$\$\$\$

Hard Core® 120/240 volt 1000 watt Switchable Ballast, Econowing® Reflector, Plantmax® 1000 watt HPS Lamp \$215.99

Hard Core® 120/240 volt 1000 watt Switchable Ballast, Econowing® Reflector, Plantmax® 1000 watt 7200 MH Lamp (vegetative growth) and Plantmax® 1000 watt HPS Lamp (flowering) \$285.99

Energy Station® 1000 watt Cali Ballast, Econowing® Reflector, Plantmax® 1000 watt HPS Lamp \$272.97

Energy Station® 1000 watt Cali Ballast, Econowing® Reflector, Plantmax® 1000 watt 7200 MH Lamp (vegetative growth) and Plantmax® 1000 watt HPS Lamp (flowering) \$ 342.96

BETTER

WellThink® 400 watt Dimmable Ballast, YieldMaster® Air Cooled Reflector, Hortilux® 400 watt HPS Lamp \$336.97

WellThink® 400 watt Dimmable Ballast, YieldMaster® Air Cooled Reflector, Plantmax® 400 watt 7200 MH Lamp (vegetative growth) and Hortilux® 400 watt HPS Lamp (flowering) \$386.96

Harvest Pro® 600 watt, 120/240 volt Switchable Ballast, Irradiator® Reflector, Hortilux® 600 watt HPS Lamp \$ 414.97

Harvest Pro® 1000 watt, 120/240 volt Switchable Ballast, Irradiator® Reflector, Plantmax® 7200 1000 watt MH Lamp (vegetative growth), Hortilux® 1000 watt HPS Lamp (flowering) \$ 484.96

Energy Station® 1000 watt Cali Ballast, SilverSun® Reflector, Hortilux® 1000 watt HPS Lamp \$456.97

Energy Station® 1000 watt Cali Ballast, SilverSun® Reflector, Plantmax® 1000 watt 7200 MH Lamp (vegetative growth) and Hortilux® 1000 watt HPS Lamp (flowering) \$526.96

Energy Station® 1000 watt Cali Ballast, AgroTech® Magnum DE Reflector, DigiMax® 1000 watt DE HPS Lamp \$426.97

BEST

UltraGrow® 400/600 watt, 120/240 volt Switchable Dimming Ballast, Magnum XXXL® Air Cooled Reflector, Plantmax® 7200 400 watt MH Lamp (vegetative growth) Hortilux® 600 watt HPS Lamp (flower) \$582.96

Galaxy® Grow Amp 600/400/Turbo , 120/240 volt Switchable Dimming Ballast, Magnum XXXL® Air Cooled Reflector, Plantmax® 7200 600 watt MH Conversion (vegetative growth), Hortilux® 600 watt HPS Lamp (flowering) \$692.96

Galaxy® Grow Amp 1000 watt, 120/240 volt Switchable Dimming Ballast, Dominator® XXXL Air Cooled Reflector, Plantmax® 7200 1000 watt MH Lamp (vegetative growth), Hortilux® 1000 watt HPS Lamp (flowering) \$

Galaxy® Grow Amp 1000 watt, 120/240 volt Switchable Dimming Ballast, AgroTech® Magnum DE Reflector, Ushio® Double Ended 1000 watt HPS Lamp \$586.97

Galaxy® Grow Amp 1000 watt, 120/240 volt Switchable Dimming Ballast, AC/DE® DE Air Cooled Reflector, Ushio® Double Ended 1000 watt HPS Lamp \$799.97

Sun System® LEC® 315 Light Emitting Ceramic® Fixture

A highly efficient, agriculturally engineered, ceramic metal halide lamp, featuring greatly improved full color light spectrum which is ideal for both vegetative and flowering plants in all phases of growth. Higher amounts of beneficial UV and far red spectrums increase the lamp's growth power to the plants. It is the most efficient lamp in producing photosynthetic photon flux (PPF) per watt. As tested at Utah State University Crop Physiology Laboratory, it's spectrum is 18% and 44% more efficient for photosynthesis than MH and HPS lamps respectively. This ceramic grow light provides an amazing 90% retention of initial output at 8,000 hours of use, and an unheard of 85% output retention at 20,000 hours of use. This means more light to your plants and less lamp replacement. Many growers use this system, together with a 1000 watt HPS Double Ended system, for the ultimate HID grow light experience available today. One year warranty on the lamp, 5 year warranty on the system. Reflector Dimensions: 21.6L x 17.3W x 9.6H \$599.99

*****Air cooled reflectors will require an inline fan or squirrel cage to operate, for an additional cost. See our website or talk to one of our lighting consultants.

*****We have over 1,800 potential combinations of grow lights when combining our different ballasts, reflectors, and lamp combos.

*****Call or stop in to see our ever-changing stock of used grow lights.

*****Visit newearthgardencenter.com for a complete description of the reflectors listed in the above grow light combinations.

NextLight® LED 525 Watt Grow Light (equivalent to an HPS 1000)



Finally, an LED grow light that more than delivers on promises of LED technology! It is first true replacement for a 1000 watt grow light, with full color spectrum, 75% less heat, & a whopping 70,000 hours of grow time! Running at 525 watts of light, with over 16 years of anticipated lamp usage, NextLight will pay for itself in less than 5 years of continual use, then pay YOU \$370 per year for next 10. Powerful white light of HPS 1000 has proven time & again to be grower's choice. NextLight has been specifically designed to match HPS 1000 spectrum, providing same sun-like qualities plants love without negatives of

high energy requirements & high heat. NextLight is designed to outlast HPS & outperform any LED system on the market. Using only high quality, made in America, LEDs assures a true 70,000 hour lifespan. Also, because it puts out 75% less heat than 1000 watt HPS it causes far less stress on cooling system, ensuring a much longer life. This high-efficiency system requires only half the energy a typical HPS 1000 requires. With top of line LEDs, incredibly low heat production & forward thinking design NextLight is able to generate exceptional growing conditions at just a fraction of the cost. We know, this sounds too good to be true...but we encourage you to come see the NextLight in action at our store, & take advantage of our free consultation policy to see how NextLight may help you bring your growing to the next level. This could be the grow light investment you have been waiting for. 5 year warranty. Dimensions: 22" x 13.5" x 6.5" **\$1299.00**

Visit www.nextlightsystems.com for more information and video instruction on the NextLight

Does the Glass included with my reflector block UV and/or Heat?

Yes and Yes. All glass has naturally occurring UV inhibitors but we are not adding additional filtration as some amount of UV is known to be beneficial, the primary function of the glass lens is to aid in heat retention and evacuation (air cooled).

How much light am I losing by having the glass lens in this fixture?

Clear glass does result in slightly reduced light due to the lambertian refraction effect. The amount depends on the lamp type, glass thickness, shape of reflector and reflective materials.

What is the proper way to air cool a reflector? Push Vs Pull?

Typically pulling air through a reflector (inducing air) will create a tighter seal around the seams vs using positive pressure to blow (push) through the reflector.

Do I have to air cool my reflector?

No, all ETL listed reflectors are tested without air flow being present. However the primary function of an air cooled is to induce air flow and evacuate the heated ambient air.

What is the maximum length I can have between the ballast and reflector?

This primarily depends upon the ballast type (magnetic vs electronic) and also the lamp type (HPS vs Probe Start MH). Some magnetic ballasts can use "long range ignitors" for up to 50', and most Electronic ballasts reliably fire lamp at lengths above 50'.

What is the advantage of running my ballast on 240V?

Higher voltage operation reduced the amperage consumption. However we all pay for electricity by the Watt. There is no effective power savings in operating 240v vs 120v.

How do I figure out how much it will cost a month to operate my lights?

Look at your local power bill for the rate per KW (kilowatt), per hour. Example if you pay .10\$ per KW it will cost you .10\$ to operate a 1000w system for 1 hour (note: all systems have a certain % of efficiency loss. Typical 1000w ballast / lamp actually consume approx 1080w)

Can I use any normal extension cord to run my ballast or do I need a specific rated cord?

Look at the extension cord ANSI rating for maximum wattage / amperage allowed. Never exceed or operate at maximum load rating of an extension cord.

How high do I need to hang my lights above my plants?

The higher the wattage the further away you want the light to be from your plants due to the amount of heat. HID lighting will be further away than a fluorescent fixture because of this. When mounting your lighting fixture take into account the type of plant and how tall the plant will grow. You want to keep the light as close as you can, but not so close to burn the plant. A simple rule is "if it is comfortable for the back of your hand, it will be a safe distance for your plants". Doing a little research on the type of plant and where it comes from will help in determining how much (or little) light your plants like. With fast growing plants, you may need to check the hanging height on a regular basis as plants that get too close to the lamp will be severely burned.

*Many thanks to our good friends at Sunlight Supply for providing this helpful Q & A. They have been our lighting partner since 1995.
www.sunlightsupply.com*