PHILIPS

HID

Horticulture lamps

HPS Agro Plus

Promote growth in horticulture applications

The Philips HPS Agro Plus double-ended lamp offers the highest growth light for horticulture. Producing 2,120 µmol/s at 1,000W and 2,400 µmol/s when BOOSTED to 1,150W[1].

Why HPS Double-Ended Lamps?

Double-ended (DE) HPS lamps are increasingly being used in greenhouses and other professional applications, as they outperform single-ended HPS in many aspects. The Philips HPS Agro Plus 1000W DE EL lamp connects to a special double-ended socket fixture, producing higher growth light (also expressed in micromoles or µmol/s), 10,000 hours rated average life, 95% lumen maintenance, and allows operation in intensive environments. Further, the double-ended position harnesses light output, facilitating optimal reflector designs.[1,2,4]

Double-ended high pressure sodium lamp with a ceramic discharge tube, enclosed in a clear quartz glass outer bulb with optimized growth light (µmol/s) output and maintenance.

Philips HPS Agro Plus DE Horticulture lamp

Increase plant growth up to 10% vs competitive double-ended lamps[1,7]

As the most experienced brand in HPS DE since 2005, Philips understands professional horticulture needs[6]. Plants such as fruits, vegetables and flowers require high light levels for optimum growth[2]. The rate of photosynthesis is determined by the amount of photons between 400-700nm, called Photosynthetic Photon Flux (PPF). Higher PPF per Watt means more efficient plant growth, expressed as micromoles per second (µmol/s), or simply growth light[5]. **As studies show a direct correlation between µmol/s output and plant growth[7,8], the HPS Agro Plus DE EL produces up to 10% more µmol/s vs competitive DE lamps, and up to 45% vs single-ended (SE) lamps[1,2].**

BOOST Up To 2,400 Micromoles. Why is BOOSTING Important?

Boosting, or raising the wattage beyond 1,000W, is particularly critical during the flowering and fruiting phase, which often represents up to 25% of the growth cycle[9]. The Philips HPS Agro Plus 1000W DE EL produces the highest growth light when BOOSTED to 1,150W outputting 2,400 µmol/s, a 13% increase over standard 1,000W operation[1]. The proprietary design features APIA (Active Philips Integrated Antenna) arc tube technology for long and reliable lifetime, while the high quality getter ensures excellent growth light maintenance and fewer premature failures[4]. These features allow dependable performance under the most extreme conditions, such as while boosting.

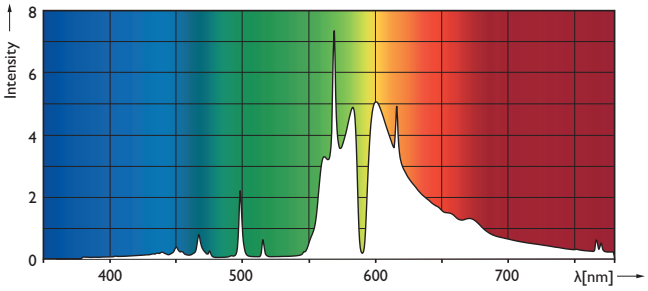
Increase Efficiency, Coverage and Growth Up to 45%

The increased µmol/s output per watt of the Philips HPS Agro Plus 1000W DE EL allows broader coverage and therefore the addition of more plants, while using the same energy vs a single-ended (SE) lamp. A typical SE 1,000W lamp can cover 16 square feet, however, this can increase to 30 square feet or more with the Philips HPS Agro Plus DE EL, allowing up to 45% greater plant coverage and growth, (depending on factors like the type of plant, fixture design, and environmental circumstances).[1,2,7,8]

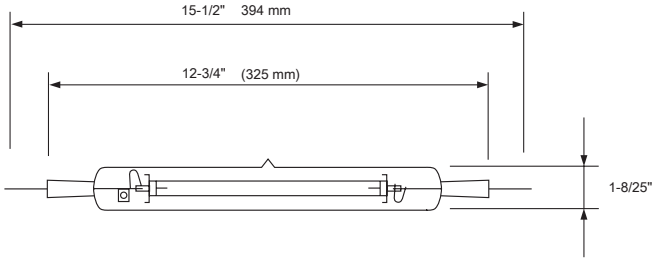
Ordering guide

Product No. 472068	Nominal Power	Lamp Voltage	Lamp Current	Bulb Finish	Bulb Temperature (° C max)	Dimmable up to 50%	Burning Position	Light output (lumen)	Lumen efficacy (lumen/watt)	PPF Cell (µmol/s)	PPF Cell efficacy	PPF maintenance 10,000 hrs (%)	Nominal lifetime @ 10% failures (hrs)
HPS AGRO Plus 1000W DE EL	1,000W	225	4.4	Clear	700	Yes	Horizontal	155,000	155	2,120	2.12	95%	10,000
	1,150W	255	4.5	Clear	-	Yes	Horizontal	165,000	143	2,400	2.08	-	-

Photometry



Dimensions



Philips HPS Agro Plus DE Horticulture lamp

Notes:

1. Based on Philips testing with Philips compatible driver.
2. Smallwood, Philip. "Horticulture Lighting, Market Analysis and Forecast 2016." Strategies Unlimited. 2016
3. Foote, Jesse. "LED Lighting for Horticultural Applications." Navigant Research. 2015
4. Philips Lighting. "Horticulture Products Overview, Growing Your Profits." 2010
5. Philips Horticulture product bulletin PLt-1633BN 02/16.
6. Philips was the first to introduce HPS double ended lamps in 2005 in Europe.
7. McCall, Lee. "Seeing Double." Maximum Yield September 2014
8. http://www.pllight.com/light-technology/
9. Based on internal and external market research.

*For professional use only. Only for sale to authorized customers in North America.

WARNINGS AND CAUTIONS
Please read all warnings associated with this product before attempting installation. FAILURE TO ABIDE BY THESE WARNINGS MAY RESULT IN PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.

NOTES:

1. These lamps must be operated in fixtures designed for use with High Pressure Sodium lamps.
2. The fixture wattage rating must match the wattage indicated on the outer glass bulb.
3. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the glass is struck.
4. If the outer glass bulb is broken, shut off power immediately and remove the lamp after it has cooled.
5. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.

   A. Operate lamp only within specified limits of operation.

   B. For total supply load refer to ballast manufacturer's electrical data.
6. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
7. Replace the lamp if the outer glass bulb has been scratched, cracked or damaged in any way.
8. If a lamp bulb support is used, be sure to insulate the support electrically so as to avoid possible decomposition of the bulb glass.
9. Do not use this lamp in a fixture which redirects a substantial portion of the energy toward the arc tube and its immediate vicinity, as this may lead to very early lamp failure. Use in open fixtures only.
10. Take care in handling and disposing of lamps. If arc tube is broken, avoid skin contact with any of the contents or fragments. Lamp contains mercury. Handle with care. Wear gloves when handling broken lamps. Manage in accord with disposal laws. See: www.lamprecycle.org or 1-800-555-0050.
11. The arc tube of this lamp contains sodium and mercury. Dispose of in accordance with federal, state and local requirements.
12. This lamp can only be used on electronic drivers. If a high frequency driver is used the frequency should always be above 100 kHz. The maximum lamp voltage rise at 1000W in the fixture should be limited to 30V compared to free burning otherwise the lifetime specification will decrease.
13. Do not handle lamp with bare hands. Oil from hands can damage the lamp.
14. Operate lamp in horizontal position only.
15. Lifetime and maintenance specs based on 1000W operation. Operating the lamp for extended periods at 1150W can affect lifetime and maintenance.
16. One year warranty period begins either from the date of installation, or 6 months from the date of manufacture, whichever is earlier.

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