

**Horticulture**

LED Lighting Technology

# CATALOGUE

applications & grow lights



**Plantekno**<sup>®</sup>  
Plant and Agricultural Technology

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*“ Best solutions for your commercial horticulture ”*





## Why LED Lighting?

Grow lights are used in applications where there is either no naturally occurring light, or where supplemental light is required. For example, in the winter months when the available hours of daylight may be insufficient for the desired plant growth, lights are used to extend the time the plants receive light. If plants do not receive enough light, they will grow long and spindly.

Horticultural LED systems and the spectral science they have made possible have already revealed some amazing effects, including: using light alone to create bigger yields per plant; producing more marketable crops overall; and changing the wavelength of light to change the flavor of foods. For these reasons and others, including the ones detailed below, LEDs are on their way to replacing legacy lighting systems in many new and newly renovated growing operations.

According to the U.S. Department of Agriculture (USDA), energy costs are the third biggest expense for the vast majority of growers, with lighting costs representing a significant portion of that both supplemental lighting in the case of greenhouses and sole-source lights for indoor operations. LEDs are 70 percent more efficient than legacy HPS (high pressure sodium) lights when measured lamp to lamp. If you include the granular control offered by LEDs that's not available with HPS lights, the energy efficiency is even higher.

# Discover **POWER** of **Purple Light**



Professional  
**APPLICATIONS**  
with Professional Grow Lights

A successful grow story  
begins with professional  
**Grow Lights**



Vertical Farming

# PRODUCE INDOOR

high quality and fresh  
**green plants**



Indoor farming technology has more advantages than traditional farming. Possible to grow more type plants all year round without regard to the weather, insects and diseases. True spectrum engineering helps you to grow best plants with a perfect appearance and flavor. We are ready to help you for turn-key installation.



# Get More Harvest

## Spectrum Combination

### Daily Light Integral

### Photoperiod

### and more...



Quality and high yield are related to not only temperature, humidity, nutrition, but also lighting of plants. Controlling of daily light integral and photoperiod are critical in growth duration. Lighting of plants stimulate or supress vegetation, flowering and fruiting. Plantekno always supports your greenhouse with a high efficiency lighting technology.



# QUALITY FUTURE starts with a **Strong Beginning**

For a healthy growing duration, beginning condition of plant is crucial between germination and transplant steps. In this step, plants should have strong root, leaves, body and be able to accumulate power for a healthy growth in the future.





# Healthy Grafting

## Strong Plants

### with powerful lights



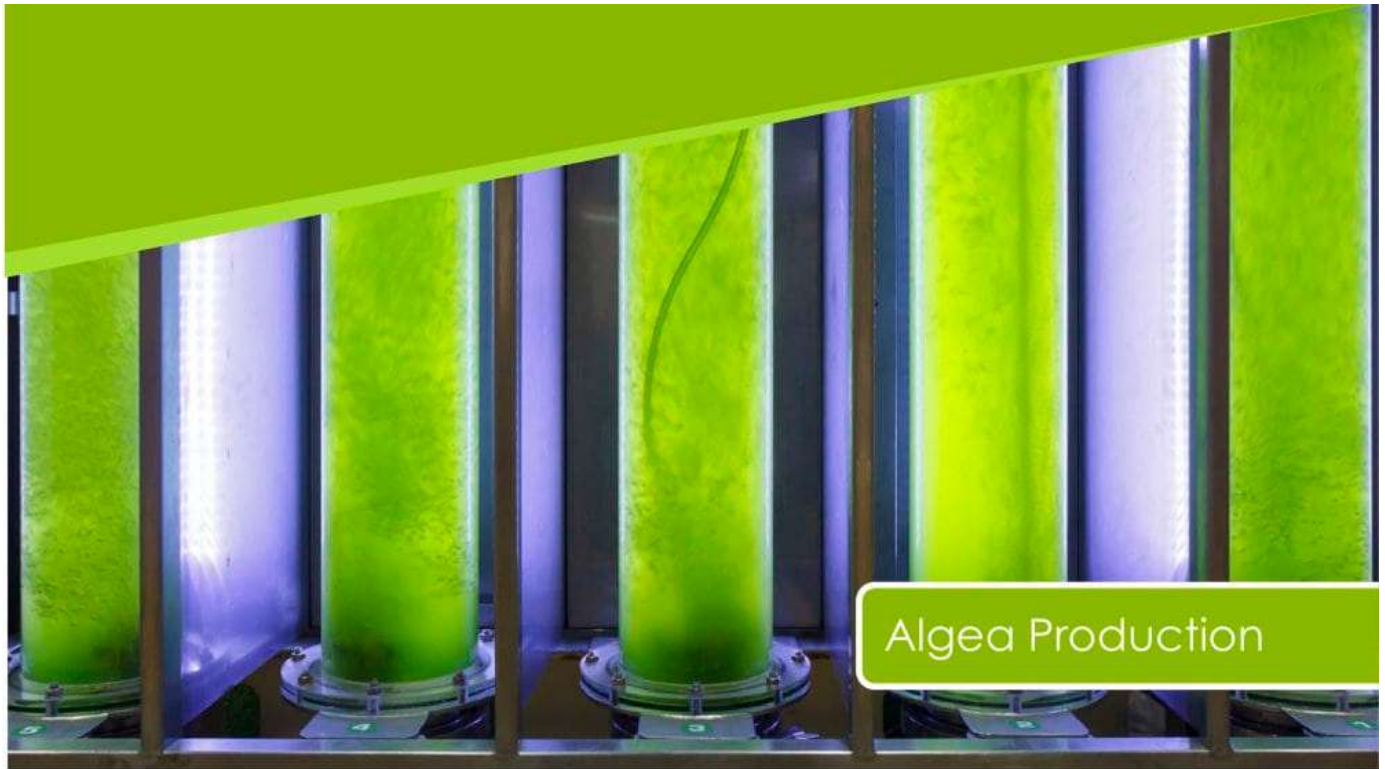
A healthy grafting needs true and sufficient level lighting. You can increase your successful grafting rate and reduce your electric usage with Plantekno grow lights to increase your success. We are ready to help you install professional lighting.



# Increase Production with a true light recipe

Tissue culture is the growth of tissues or cells separate from the organism. This is typically facilitated via use of a liquid, semi-solid, or solid growth medium, such as broth or agar. Multiplication, shooting and rooting are critical steps to increase production. True lighting technics help producer to get better results.





# Blue Green Algae increase production capacity

Cyanobacteria (prokaryotes) known as blue-green algae. Algae production in reactor also need quality lighting for successful results. LED technology provides many advantages to obtain best results with spectrum recipe. We can provide quality grow lighting for your studies.





# Fast Life Cycle

Do not waste more time

Increase **breeding** cycle

all year round

Plant breeding uses deliberate interbreeding (crossing) of closely or distantly related individuals to produce new crop varieties or lines with desirable properties. In this duration environment effects should be suitable for a healthy breeding. Lighting is most important one of these effects to control photoperiodism.





# Light Effects on Plants

## Change parameters of light to see the effects on plant

Each different plant species responds differently to the different light variants. Under different conditions morphological, genetic and chemical changes give us scientific messages. We are always ready to support scientific institutions that are working on this field.





Professional  
**GROW LIGHTS**  
for professional applications

Efficiency =  $\mu\text{mol}/\text{W}$   
not others...

# Plantekno ECO GreenLine



Plantekno ECO GreenLine was developed for economical and DIY applications. It is thin and lightweight design. Suitable for lots of application such as indoor growing, tissue culture, vertical farming, grafting etc.



	ECO GreenLine Colorful G1	ECO GreenLine Colorful G2	ECO GreenLine White G1	ECO GreenLine White G2
<b>Power Input</b>	80-305VAC / 50-60 Hz	80-305VAC / 50-60 Hz	80-305VAC / 50-60 Hz	80-305VAC / 50-60 Hz
<b>Power Usage</b>	12/18/24/30/36 Watt	12/18/24/30/36 Watt	12/18/24/30/36 Watt	12/18/24/30/36 Watt
<b>Efficiency</b>	Up to 90%	Up to 90%	Up to 90%	Up to 90%
<b>PPF/W</b>	1.9 µmol/W	2.1 µmol/W	180 Lumen/W	200 Lumen/W
<b>Total PPF</b>	23/34/46/57/68 µmol/s	25/38/50/63/76 µmol/s	2160-6480 Lumen	2400-7200 Lumen
<b>IP Protection</b>	IP64	IP64	IP64	IP64
<b>Heat Output</b>	3.4 BTU/h.W	3.4 BTU/h.W	3.4 BTU/h.W	3.4 BTU/h.W
<b>Working Humidity</b>	%95	%95	%95	%95
<b>Operating Temp.</b>	30-40 °C	30-40 °C	30-40 °C	30-40 °C
<b>Ambient Temp.</b>	-10 +30 °C	-10 +30 °C	-10 +30 °C	-10 +30 °C
<b>Spectrum</b>	Standard and Optional	Standard and Optional	2000K - 10000K	2000K - 10000K
<b>Lifespan L70</b>	35.000h	50.000h	60.000h	80.000h
<b>Viewing Angle</b>	120 degree (50%)	120 degree (50%)	120 degree (50%)	120 degree (50%)
<b>Dimension</b>	60/90/120/150/180 cm	60/90/120/150/180 cm	60/90/120/150/180 cm	60/90/120/150/180 cm
<b>Weight</b>	320/460/620/780/940 g	320/460/620/780/940 g	320/460/620/780/940 g	320/460/620/780/940 g
<b>Certificate</b>	CE	CE	CE	CE
<b>Warranty</b>	3 years	4 years	3 years	4 years

Order Code - Colorful	Length	Power	PPF	Order Code - White	Length	Power	Lumen	CODE	Standard Spectrum Combinations
PL060012D150ECGLC-G1	60cm	12W	23 µmol/s	PL060012D150ECGLW-G1	60cm	12W	2160 L	PL32A	General purpose with highest efficiency output
PL060012D150ECGLC-G2	60cm	12W	25 µmol/s	PL060012D150ECGLW-G2	60cm	12W	2400 L	PL33G	Best combination for Germination purpose
PL090018D150ECGLC-G1	90cm	18W	34 µmol/s	PL090018D150ECGLW-G1	90cm	18W	3240 L	PL34S	Best combination for Seedling
PL090018D150ECGLC-G2	90cm	18W	38 µmol/s	PL090018D150ECGLW-G2	90cm	18W	3600 L	PL35V	Best combination for Vegetative growth
PL120024D150ECGLC-G1	120cm	24W	46 µmol/s	PL120024D150ECGLW-G1	120cm	24W	4320 L	PL36F	Best combination for Flowering and Fruiting
PL120024D150ECGLC-G2	120cm	24W	50 µmol/s	PL120024D150ECGLW-G2	120cm	24W	4800 L	*** Custom design available.	
PL150030D150ECGLC-G1	150cm	30W	57 µmol/s	PL150030D150ECGLW-G1	150cm	30W	5400 L	<b>General Notes</b>	
PL150030D150ECGLC-G2	150cm	30W	63 µmol/s	PL150030D150ECGLW-G2	150cm	30W	6000 L	<ul style="list-style-type: none"> <li>• Dimmable is available</li> <li>• Optionally specific spectrum combination with unique colors.</li> <li>• Available Colors: 450nm, 660nm, 730nm, 2000-10000 Kelvin</li> <li>• PPF, Lumen, Watt values are based general spectrum combination and can be different according to any other spectrum combinations.</li> <li>• All values may vary in the range of ±5%.</li> </ul>	
PL180036D150ECGLC-G1	180cm	36W	68 µmol/s	PL180036D150ECGLW-G1	180cm	36W	6480 L		
PL180036D150ECGLC-G2	180cm	36W	76 µmol/s	PL180036D150ECGLW-G2	180cm	36W	7200 L		



## • Plantekno GreenLine



Plantekno GreenLine was developed in long time with more R&D experiments. We have designed this model with high efficiency LEDs for long time operation and economical using. It has true and effective wavelngts for photosynthesis of plant.



Vertical Farming



Tissue Culture



Seedling Cultivation



Scientific Practices



Plant Grafting

	GreenLine G1 75cm	GreenLine G2 75cm	GreenLine G1 150cm	GreenLine G2 150cm
Power Input	220-230VAC / 50-60 Hz	220-230VAC / 50-60 Hz	220-230VAC / 50-60 Hz	220-230VAC / 50-60 Hz
Power Usage	30 Watt	30 Watt	60 Watt	60 Watt
Efficiency	Up to 96%	Up to 96%	Up to 96%	Up to 96%
PPF/W	2.2 $\mu\text{mol/W}$	2.5 $\mu\text{mol/W}$	2.2 $\mu\text{mol/W}$	2.5 $\mu\text{mol/W}$
Total PPF	66 $\mu\text{mol/s}$	75 $\mu\text{mol/s}$	132 $\mu\text{mol/s}$	150 $\mu\text{mol/s}$
IP Protection	IP65	IP65	IP65	IP65
Heat Output	3.4 BTU/h.W	3.4 BTU/h.W	3.4 BTU/h.W	3.4 BTU/h.W
Working Humidity	%99	%99	%99	%99
Operating Temp.	30-40 °C	30-40 °C	30-40 °C	30-40 °C
Ambient Temp.	-10 +30 °C	-10 +30 °C	-10 +30 °C	-10 +30 °C
Spectrum	Standard and Optional	Standard and Optional	Standard and Optional	Standard and Optional
Lifespan L70	40.000h	60.000h	40.000h	60.000h
Viewing Angle	90 or 120 degree (50%)	90 or 120 degree (50%)	90 or 120 degree (50%)	90 or 120 degree (50%)
Dimension	754x45x47mm	754x45x47mm	1504x45x47mm	1504x45x47mm
Weight	0.975 kg	0.975 kg	1.7 kg	1.7 kg
Certificate	CE	CE	CE	CE
Warranty	4 years	5 years	4 years	5 years

Order Code	Length	Power	V. Angle (50%)	PPF	CODE	Standard Spectrum Combinations
PL075030D090GL-G1	75cm	30W	90 degree	66 $\mu\text{mol/s}$	PL32A	General purpose with highest efficiency output
PL075030D090GL-G2	75cm	30W	90 degree	75 $\mu\text{mol/s}$	PL33G	Best combination for Germination purpose
PL075030D120GL-G1	75cm	30W	120 degree	66 $\mu\text{mol/s}$	PL34S	Best combination for Seedling
PL075030D120GL-G2	75cm	30W	120 degree	75 $\mu\text{mol/s}$	PL35V	Best combination for Vegetative growth
PL150060D090GL-G1	150cm	60W	90 degree	132 $\mu\text{mol/s}$	PL36F	Best combination for Flowering and Fruiting
PL150060D090GL-G2	150cm	60W	90 degree	132 $\mu\text{mol/s}$		*** Custom design available.
PL150060D120GL-G1	150cm	60W	120 degree	150 $\mu\text{mol/s}$		<b>General Notes</b>
PL150060D120GL-G2	150cm	60W	120 degree	150 $\mu\text{mol/s}$		<ul style="list-style-type: none"> <li>100-277VAC Power Input</li> <li>Optionally specific spectrum combination with unique colors.</li> <li>Available Colors: 450nm, 660nm, 730nm, 2000-10000 Kelvin</li> <li>PPF, Lumen, Watt values are based general spectrum combination and can be different according to any other spectrum combination.</li> <li>All values may vary in the range of <math>\pm 5\%</math>.</li> </ul>



## • Plantekno Extreme GreenLine



The **Extreme GreenLine** can be best solution for toplighting of greenhouses. **Extreme GreenLine** series substitute traditional HID/HPS lighting. It is efficient during lighting of your greenhouse with most important features such as a long lifespan, up to 2.75 $\mu$ mol/W light output and up to 96% electric using efficiency. **Plantekno Extreme GreenLine** has IP66 protection structure against water and humidity. It has %100 aluminium body for the best thermal conductivity. Lowest thermal resistance technology is provides a long lifespan.



Greenhouse    Seedling Cultivation    Scientific Practices    Algae Growing

	Extreme GreenLine G1	Extreme GreenLine G2	Order Code	V. Angle (50%)	Power	PPF
Power Input	220-230VAC / 50-60 Hz	220-230VAC / 50-60 Hz	PL120160D090EGLH-G1	90 degree	160W	352 $\mu$ mol/s
Power Usage	160 Watt	160 Watt	PL120160D090EGLH-G2	90 degree	160W	400 $\mu$ mol/s
Efficiency	Up to 96%	Up to 96%	PL120160D120EGLH-G1	120 degree	160W	352 $\mu$ mol/s
PPF/W	2.2 $\mu$ mol/W	2.5 $\mu$ mol/W	PL120160D120EGLH-G2	120 degree	160W	400 $\mu$ mol/s
Total PPF	352 $\mu$ mol/s	400 $\mu$ mol/s	<b>CODE</b>	<b>Standard Spectrum Combinations</b>		
IP Protection	IP65	IP65	PL32A	General purpose with highest efficiency output		
Heat Output	3.4 BTU/h.W	3.4 BTU/h.W	PL33G	Best combination for Germination purpose		
Working Humidity	%99	%99	PL34S	Best combination for Seedling		
Operating Temp.	30-40 °C	30-40 °C	PL35V	Best combination for Vegetative growth		
Ambient Temp.	-10 +30 °C	-10 +30 °C	PL36F	Best combination for Flowering and Fruting		
Spectrum	Standard and Optional	Standard and Optional	*** Custom design available.			
Lifespan L70	40.000h	60.000h	<b>General Notes</b>			
Viewing Angle	90 or 120 degree (50%)	90 or 120 degree (50%)	<ul style="list-style-type: none"> <li>• 100-277VAC Power input</li> <li>• Optionally specific spectrum combination with unique colors.</li> <li>• Available Colors: 450nm, 660nm, 730nm, 2000-10000 Kelvin</li> <li>• PPF, Lumen, Watt values are based general spectrum combination and can be different according to any other spectrum combinations.</li> <li>• All values may vary in the range of +3%.</li> </ul>			
Dimension	1204x86x64mm	1204x86x64mm				
Weight	2.6 kg	2.6 kg				
Certificate	CE	CE				
Warranty	4 years	5 years				



# Plantekno ExPAR Premium



**Plantekno ExPAR Premium** series provide a professional lighting solution for greenhouses and other applications. It is efficient during lighting of your greenhouse with most important features such as a long lifespan, up to 2.75µmol/W light output and up to 96% electric using efficiency. **ExPAR Premium** series substitute traditional HID/HPS lighting with extra professional features.



	Plus Series			
	ExPAR Premium 320W G1	ExPAR Premium 480W G1	ExPAR Premium 320W G2	ExPAR Premium 480W G2
<b>Power Input</b>	220-230VAC / 50-60 Hz	220-230VAC / 50-60 Hz	220-230VAC / 50-60 Hz	220-230VAC / 50-60 Hz
<b>Power Usage</b>	320 Watt	480 Watt	320 Watt	480 Watt
<b>Efficiency</b>	Up to 96%	Up to 96%	Up to 96%	Up to 96%
<b>PPF/W</b>	2.2 µmol/W - 2.5 µmol/W	2.2 µmol/W - 2.5 µmol/W	2.45 µmol/W - 2.75 µmol/W	2.45 µmol/W - 2.75 µmol/W
<b>Total PPF</b>	704 µmol/s - 800 µmol/s	1056 µmol/s - 1200 µmol/s	784 µmol/s - 880 µmol/s	1176 µmol/s - 1320 µmol/s
<b>IP Protection</b>	IP65	IP65	IP65	IP65
<b>Heat Output</b>	3.4 BTU/h.W	3.4 BTU/h.W	3.4 BTU/h.W	3.4 BTU/h.W
<b>Working Humidity</b>	%99	%99	%99	%99
<b>Operating Temp.</b>	30-40 °C	30-40 °C	30-40 °C	30-40 °C
<b>Ambient Temp.</b>	-10 +30 °C	-10 +30 °C	-10 +30 °C	-10 +30 °C
<b>Spectrum</b>	Standard and Optional	Standard and Optional	Standard and Optional	Standard and Optional
<b>Lifespan L70</b>	40.000h	60.000h	40.000h	60.000h
<b>Viewing Angle</b>	90 or 120 degree (50%)	90 or 120 degree (50%)	80 or 120 degree (50%)	80 or 120 degree (50%)
<b>Dimension</b>	3604x278x121mm	3604x278x121mm	3604x278x121mm	3604x278x121mm
<b>Weight</b>	3.8 kg	3.8 kg	3.8 kg	3.8 kg
<b>Certificate</b>	CE	CE	CE	CE
<b>Warranty</b>	4 years	5 years	4 years	5 years

Order Code	V. Angle (50%)	Power	PPF	CODE	Standard Spectrum Combinations
PL120320D090EGLH-G1	90 degree	320W	704 µmol/s	PL32A	General purpose with highest efficiency output
PL120320D090EGLH-G2	90 degree	320W	800 µmol/s	PL33G	Best combination for Germination purpose
PL120480D090EGLH-G1	90 degree	480W	1056 µmol/s	PL34S	Best combination for Seedling
PL120480D090EGLH-G2	90 degree	480W	1200 µmol/s	PL35V	Best combination for Vegetative growth
PL120320D120EGLH-G1	120 degree	320W	704 µmol/s	PL36F	Best combination for Flowering and Fruiting
PL120320D120EGLH-G2	120 degree	320W	800 µmol/s		*** Custom design available.
PL120480D120EGLH-G1	120 degree	480W	1056 µmol/s		<b>General Notes</b>
PL120480D120EGLH-G2	120 degree	480W	1200 µmol/s		<ul style="list-style-type: none"> <li>• 100-277VAC Power Input</li> <li>• Optionally specific spectrum combination with unique colors.</li> <li>• Available Colors: 450nm, 660nm, 730nm, 2000-10000 Kelvin</li> <li>• PPF, Lumen, Watt values are based general spectrum combination and can be different according to any other spectrum combinations.</li> <li>• All values may vary in the range of +5%.</li> <li>• ExPAR series use fan for cooling.</li> </ul>



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