Controllable LED Fixtures - The Bright Choice For Your Business

Why invest in LED fixtures from Senmatic?

The LED fixtures are avaiable in two types - FL300 and FL100 - and both types come in 3 variants (Grow, Grow White and Sunlight) for different and many purposes. A major benefit is that they are all controllable. Investing in a controllable LED fixture means you always have the option to adjust the light and spectral composition to the cultures need.

Simply put, an investment in Senmatic LED fixtures will not leave you with a fixed spectrum or light but lead to endless possibilities.
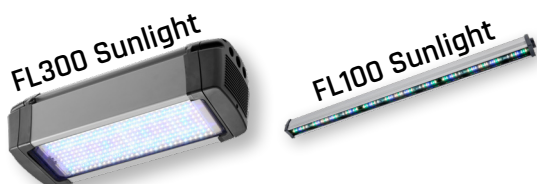
Highlights

*   Control of spectral compositon (Grow & Grow White)
*   Dynamic control of the light intensity
*   The natural replacement for the conventional HPS systems
*   Minimize the use of Plant Growth Regulation (PGR) (Grow & Grow White)
*   Better plant quality and higher output
*   Long lifetime with no reduction of the light output over time

*   Consistent light on the plants due to a patented optical lens system
*   Innovative solution for growing in layers for vertical farming (FL100)
*   FL100 fixtures can be interconnected
*   Enables easy integration with climate control systems
*   Get a specific lighting plan based on your need for lighting
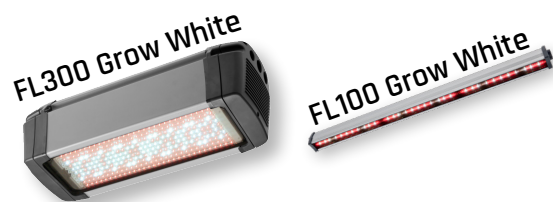*   Danish developed and manufactured

FL300 & FL100 Grow
Emitting light in the photosynthetic active region of the visible light spectrum

FL300 & FL100 Grow White
Cobines the spectrums from Grow and Sunlight for areas with special light requirements

FL300 & FL100 Sunlight
Designed with a spectrum replicating the sunlight

Where to use which fixture

	FL300 Grow	FL300 Grow White	FL300 Sunlight	FL100 Grow	FL100 Grow White	FL100 Sunlight
Greenhouses	✓	✓		✓	✓	
Garden centers		✓	✓		✓	✓
Research	✓	✓	✓	✓	✓	✓
Climate chambers		✓	✓		✓	✓
Vertical farming				✓	✓	✓
Indoor farming					✓	✓

How to control the fixtures?

The fixtures can be controlled by either our LCC4 Climate Control or by our LED Light Controller, which can be connected with your climate computer, also from another provider.

- Control of fixtures based on light sum or dynamic light measured through a quantum sensor
- Control of light intensity in time zones
- Dividing the LED installation into groups
- More quantum sensors can be connexcted for optimizing of the light control

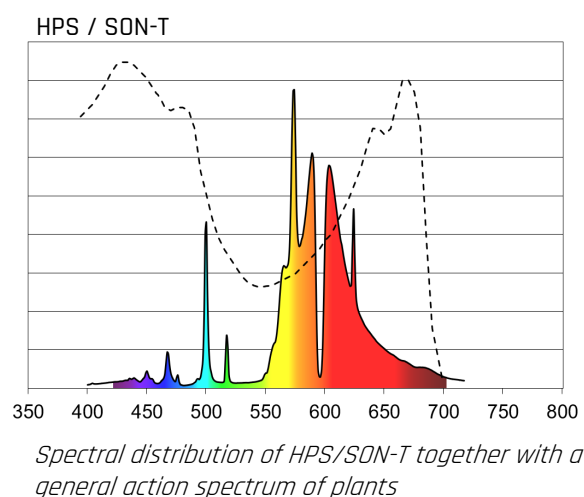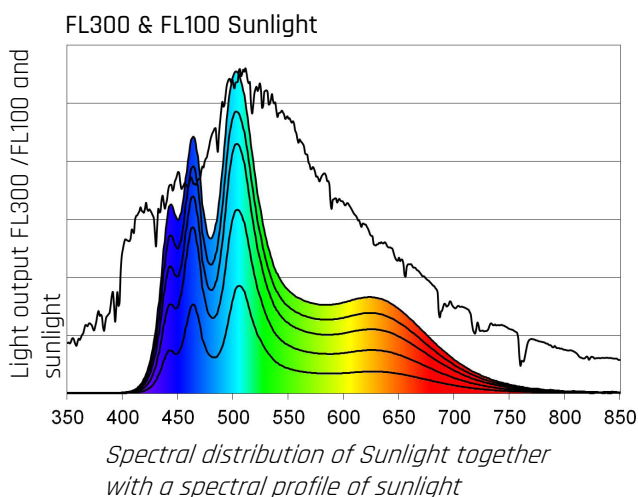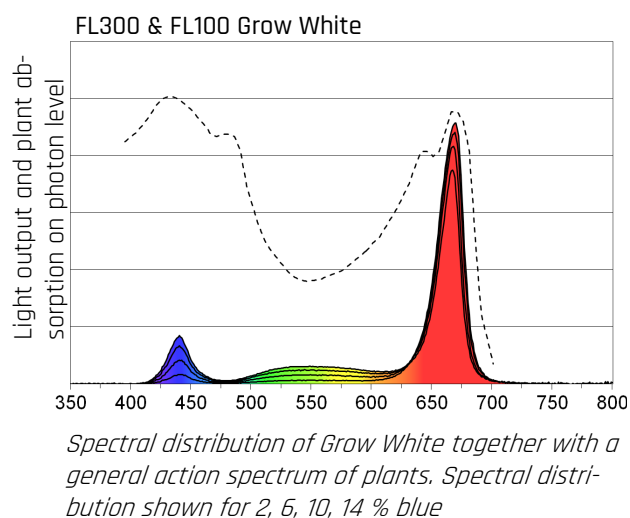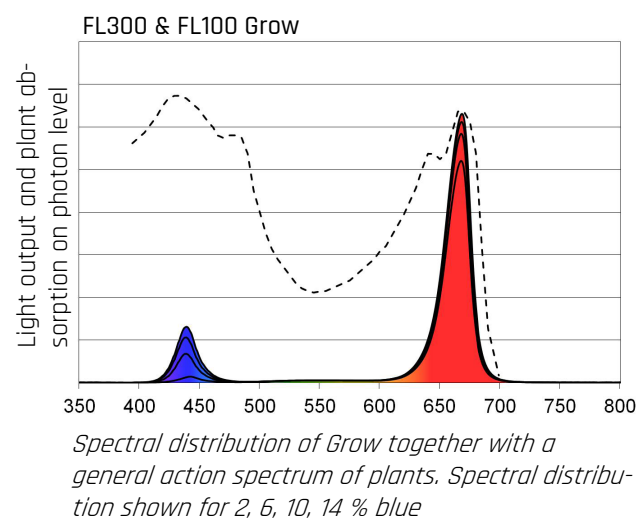That way you can maintain the full control of your LED installation.

Spectral distribution

All our LED fixtures are designed with an optical lens system enabling a traditional installation plan similar to HPS with homogenous distribution profile on plant level - but with less waste of light.
For detailed information of light modulation range for each fixture, please ask for the specific product sheet.

Below you can find a comparison of the spectral distributions of the Senmatic LED fixtures and HPS.

FL300 & FL100 Grow

Spectral distribution of Grow together with a general action spectrum of plants. Spectral distribution shown for 2, 6, 10, 14 % blue

FL300 & FL100 Grow White

Spectral distribution of Grow White together with a general action spectrum of plants. Spectral distribution shown for 2, 6, 10, 14 % blue

FL300 & FL100 Sunlight

Spectral distribution of Sunlight together with a spectral profile of sunlight

HPS / SON-T

Spectral distribution of HPS/SON-T together with a general action spectrum of plants

Parameters and specifications

	FL300 Grow	FL300 Grow White	FL300 Sunlight	FL100 Grow	FL100 Grow White	FL100 Sunlight
Power input	230 V AC / 50/60 Hz	230 V AC / 50/60 Hz	230 V AC / 50/60 Hz	400 V AC / 50/60 Hz (380 - 480 V AC)	400 V AC / 50/60 Hz (380 - 480 V AC	400 V AC / 50/60 Hz (380 - 480 V AC
Nominal current	2.4 A	2.4 A	2.4 A	0.4 A	0.4 A	0.4 A
Power usage	100 - 550 watt (adjusted via controller)	100 - 550 watt (adjusted via controller)	100 - 550 watt (adjusted via controller)	75 - 150 watt (adjusted via controller)	50 - 150 watt (adjusted via controller)	50 - 150 watt (adjusted via controller)
Light output	2.5 ☐mol/s per Watt*	2.3 ☐mol/s per Watt*	1.5 ☐mol/s per Watt*	2.4 ☐mol/s per Watt*	2.3 ☐mol/s per Watt*	1.3 ☐mol/s per Watt*
Net weight	12.4 kg	12.4 kg	12.4 kg	3 kg	3 kg	3 kg
Dimensions L x W x H	550 x 230 x 160 mm	550 x 230 x 160 mm	550 x 230 x 160 mm	1165 x 67x 90 mm	1165 x 67x 90 mm	1165 x 67x 90 mm
Operating temperature	0 - 40° C	0 - 40° C	0 - 40° C	0 - 40° C	0 - 40° C	0 - 40° C
Coverage	Up to 12 m² (depending on light intensity)	Up to 12 m² (depending on light intensity)	0.25 - 12 m² (depending on light intensity)	Up to 12 m² (depending on light intensity)	Up to 12 m² (depending on light intensity)	Up to 12 m² (depending on light intensity)
Light modulation range	From 2 - 14 % blue light of total light	From 2 - 14 % blue light of total light	From 20 - 100 % intensity	From 2 - 14 % blue light of total light	From 2 - 14 % blue light of total light	From 30 - 100 % intensity
Green / white content	From 1 - 5 % of total light*	From 3 - 22 % of total light*	See table below	From 1 - 5 % of total light*	From 5 - 22 % of total light*	See table below

*Depending on the spectral settings

% Light in terms of total PAR light		
	Sunlight	FL300 & FL100 Sunlight
400 - 500 nm	33 %	33 %
500 - 600 nm	41 %	40 %
600 - 700 nm	26 %	27 %

Our Competency

In 1953 Senmatic was founded and thus we have many years of experience manufacturing complete and configurable solutions for horticultural applications such as electronic and mechanical climate control, irrigation and fertilizing mixing and, as mentioned, LED lighting, and we are a leading worldwide supplier.

The people you will meet from the Senmatic team have a former background within greenhouse technology. Therefore, they are competent to share their own experience with you when supporting you in optimizing your production.

We are looking very much forward to support you securing a beneficial business.

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