W-LED v.2

with ICAD-Technology inside

NEW! W-LED is a plug & run UV LED solution with Inline – Continuous - Automated - Dynamic (ICAD) sensor for secure UV LED curing of plain wood boards.

UV-LED technology is the safe investment for future production lines in the UV Curing industry. It brings benefits as energy saving, no ozone, no mercury and less heat to the products as well as less maintenance, better uniformity and constant process. UV- LED technology also brings challenges as they need to be kept clean from dust and it is more difficult to measure the output, because UV LED consists of many separate emitters whereas a conventional UV lamp is only one emitter.

Efsen has been designing high-end UV Curing systems for the wood industry since 1986. It is the mission of Efsen to supply high quality application focused UV-solutions/systems, that will benefit the customer by offering superior performance.

It is therefore with great pleasure that we can offer the 2017 W-LED v.2 series from Efsen with ICAD Technology included. This unit brings user-friendliness and performance of Wood Curing systems to a new level. The plug & run W-LED consists of:

UV LED source – electrical cabinet – cooling unit - user interface - UV output control ….. all in one unit.

Curing width:
The W-LED is available in 900, 1050, 1200, 1350 and 1500mm effective curing width. Simply choose the width you need, and it will be prepared for this upon arrival at your factory. If your needs change in the future, you can easily remove units in intervals of 150mm, and you can also add unit up to the full length of 1500mm. The W-LED is always prepared for all.

ICAD-Technology inside:
Efsen has developed an inline sensor technology.[1] We call it ICAD technology (Inline – Continuous - Automated – Dynamic) and it is an integrated part of the W-LED. The sensor head travels in front of the UV LED array while recording output of each segment. When the measurement is done, the PLC adjusts the power of each LED section to obtain uniformity and the inline sensor makes a control run as seen on page 2 below in "before" and "after"

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[1] Patent pending
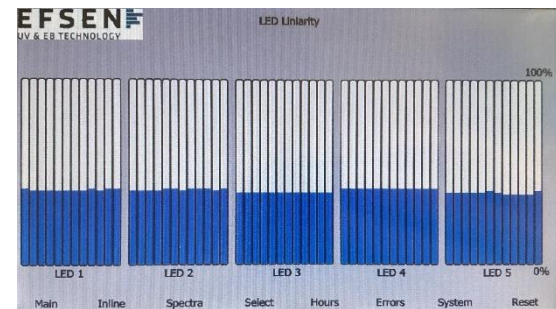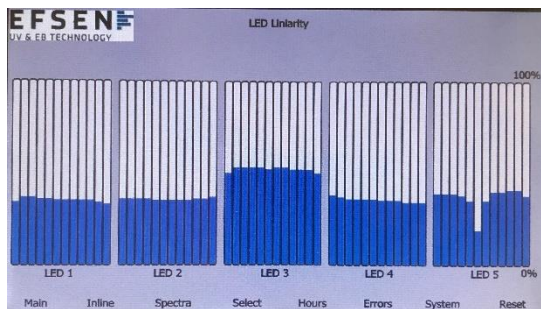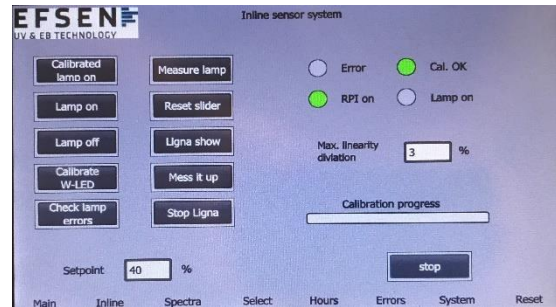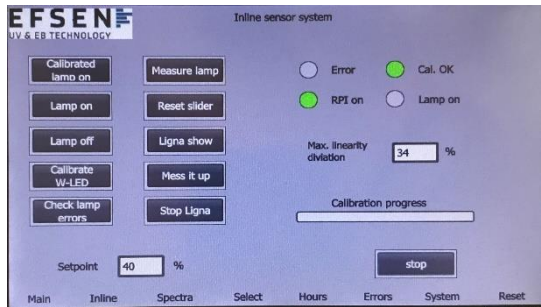
| ICAD reading Before calibration | ICAD reading After calibration |

Power:

The W-LED comes in 2 different power levels, that makes is suitable for different speeds of production.

W-LED-8-Series: Simply choose W-LED-8 series for a powerful, high dose and fully flexible system that gels and cures in low to medium speed.

W-LED-9-Series: Is your application running high speeds, or do you have a request for higher intensity for better penetration, then the W-LED-9-Series is the right solution for you.

energy saving – less heat – uniform cure – less noise
easy maintenance – no ozone – no mercury – less operating cost

W-Height adjustability:

The W-LED can be supplied with four height adjustable legs, that can elevate the whole W-LED housing for the optimal position over the products. This can be an automated process or manual activated process. W-Height is an optional choice.

W-Sensor:

The W-LED has an integrated sensor port that connects to a product sensor mounted on the conveyor before the W-LED. We call this the W-Sensor, and this activates the UV-LED's when sensing items, so that energy consumption only takes place when items are being cured. This is energy efficiency and is always included in W-LED

W-Air:

The W-LED requires clean air with no dust and above the dew point. You can supply this yourself, or you can acquire the W-Air module. The W-Air has integrated blowers and filter modules that are controlled by the W-LED. W-Air always secures that there is air for UV-LEDs and the electronics. With the No-Tool filter exchange, maintenance is made as simple as possible.
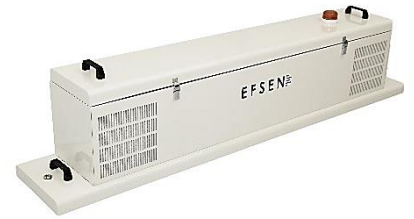
Module light shields:

We have developed a set of modular light shields that are flexible in length and attached to the W-LED covering 250mm of the conveyor. These are optional, but an easy solution as the rest of W-LED.

Plug & Run installation:

As the W-LED is an all in one module, it also contains the power supplies and electrical connections inside. This makes installation very easy and can be done by a local electrician. Just connect power and line signal to the back and configure the W-LED on the touch screen and you are ready to run.

Spare parts

W-LED: We recommend having a spare W-LED head as well as a power supply, so that uptime on the line can be quickly achieved. Changing to a new W-LED head will take about 5-10 minutes and changing a new power supply will take 15-20 minutes. We have made it simple and easy to access.

W-Air: The W-Air has an easy to change filter, and we recommend having an extra filter set for each W-Air as this makes easy and fast cleaning of the W-Air possible. One W-Air consists of 4 filters

Specifications

Electrical requirements and connections:

W-LED: 3x400V AC 50hz 3x32A (3P+N+PE) 5pol CEE plug
W-AIR: included above
Prepared for PROFINET
W-LED is Siemens S7-1200 PLC controlled

Power consumption:

W-LED-8-:

power cons @ 80%	900	1050	1200	1350	1500
kW	4,8	5,6	6,4	7,2	7,9

W-LED-9-:

power cons @ 80%	900	1050	1200	1350	1500
kW	5,4	6,3	7,2	8,0	8,9

W-Air:
Less than 1.500W

Dimensions:

W-LED Height: 490mm, Width: 355mm, Length: 2.130mm (incl. display and CEE plug connector).
Housing base length is 2.004mm
Distance between mounting legs is flexible from 1.600, 1680, 1.760, 1.840 & 1.920mm
W-AIR Height: 375mm, Width: 315mm, Length: up to 1.700mm, (excl. flash and handles)

Configurations:

UV-LED width	900mm	1050mm	1200mm	1350mm	1500mm
W-LED-8-series	W-LED-8-900	W-LED-8-1050	W-LED-8-1200	W-LED-8-1350	W-LED-8-1500
W-LED-9-series	W-LED-9-900	W-LED-9-1050	W-LED-9-1200	W-LED-9-1350	W-LED-9-1500

Another innovative UV wood curing product from Efsen UV & EB Technology