GTECHNOLOGIES
GROUP
Innovation | Creativity | Flexibility

GIARDINA GRAPHIC

G-LED

UV LED SYSTEMS

HIGH-POWER UV LED

The G-LED as of today develops a specific power of 43W/cm², one of the highest in the industry. The manufacturing technique developed by G Technologies' R&D department is based on the principle of modular COB (Chip on Board) boards in beryllium copper, fixed on an aluminium plate cooled by a temperature-controlled coolant. Each COB is 21x6mm and contains 24 LEDs of 21W each.

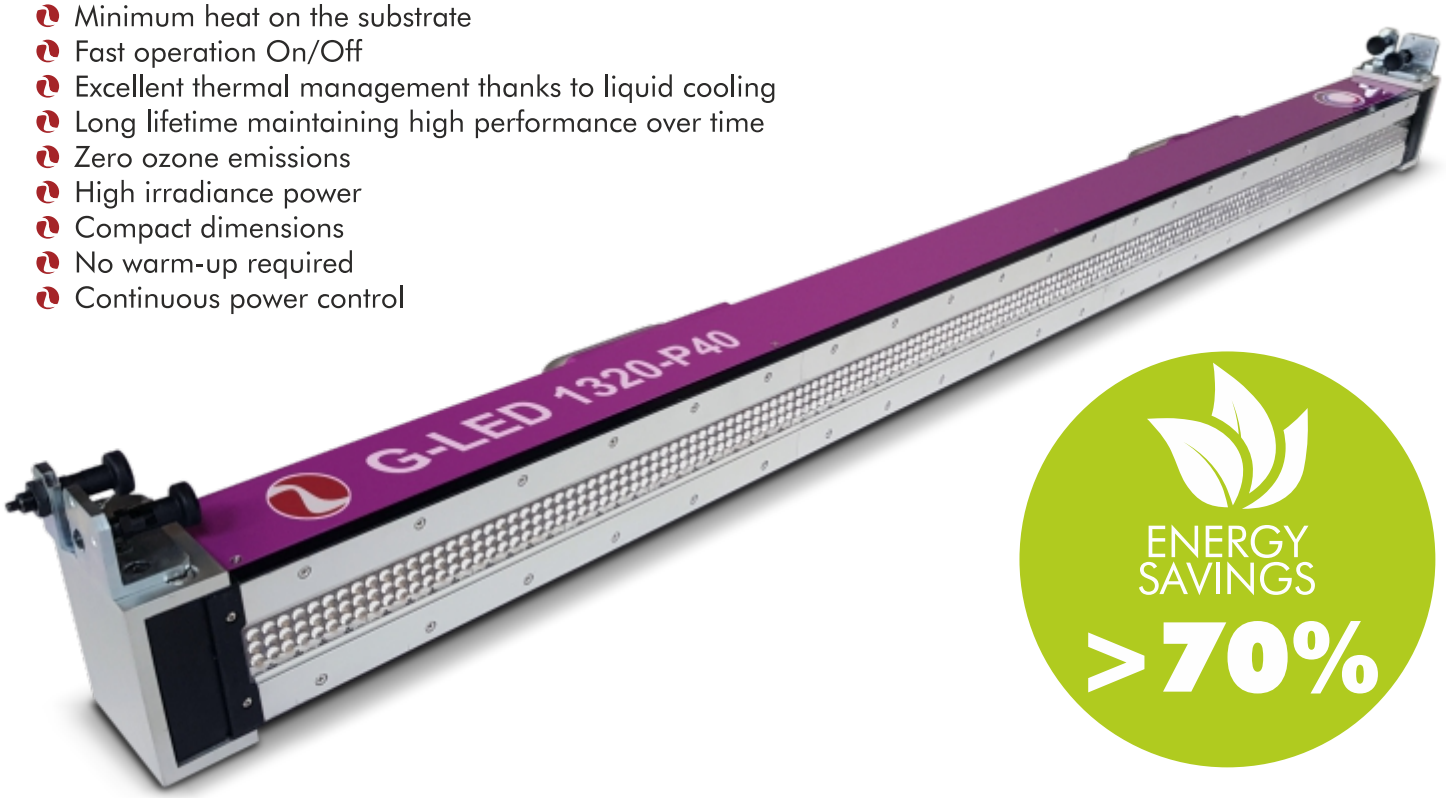
The COBs can be switched on and off as often as required, with no warmup/cool-down. The entire system is monitored by a PLC interfaced to the press. G-LED is the ideal compromise for those who want to invest today and secure the future.

The G-LED uses much of the technology applied to traditional UV arc lamps (e.g. power supply and control, cooling system, etc.), allowing the use of two technologies ("DUO" system) with just the replacement of the reflector cartridge.

The G-LED can be retrofitted to existing UV systems and is available in various wavelengths between 365 and 405 N·m. The G-LED can be used for intermediate and final curing of inks, varnishes, resins and adhesives in industrial processes in the printing industry for wide and narrow web flexo, gravure, sheetfed offset, silkscreen and inkjet printing.

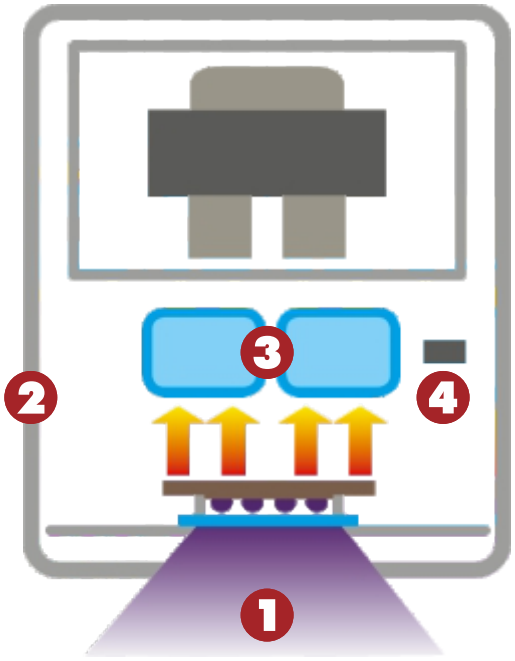
ADVANTAGES

- Great energy savings
- Minimum heat on the substrate
- Fast operation On/Off
- Excellent thermal management thanks to liquid cooling
- Long lifetime maintaining high performance over time
- Zero ozone emissions
- High irradiance power
- Compact dimensions
- No warm-up required
- Continuous power control



ENERGY SAVINGS
>70%

EFFICIENT • STURDY • RELIABLE



SPECIFICATION

Max electrical power	90W/cm
Wavelength	385N·m*
Irradiance at window	43W/cm²
Mode of operation	On/Off
Cooling	coolant
Maximum length	1680mm
Standard cross section	85mm W x 90mm H
Standard max operating temperature	40°C (104°F)
Max humidity	Non-condensing
Average diode lifetime	> 20,000 hours
"DUO" system	yes**

* 365, 395 end 405N·m available upon request
** Two curing technologies (arc UV and UV LED) with one electronic power supply only

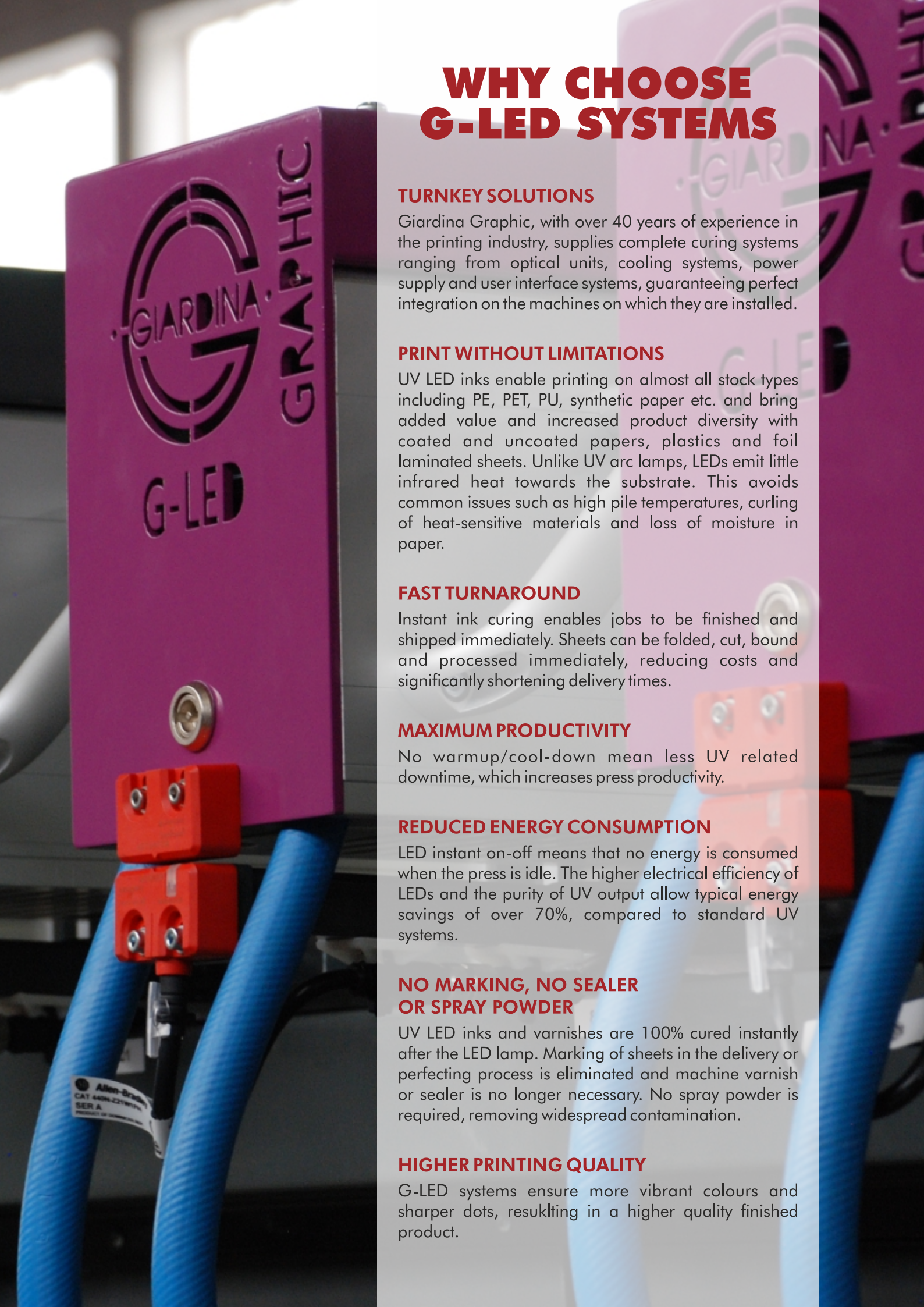
1. Thanks to its larger irradiance window, G-LED provides more energy and more exposure time for the substrate to be cured.
2. Thanks to tough design LEDs are protected at all times. G-Led profile (85xH.90mm) can fit on any machine.
3. A state of the art cooling system with coolant guarantees efficiency and durability.
4. Embedded temperature sensors constantly monitor the LEDs to ensure safe and long term operation.

"DUO" SYSTEM

FLEXIBLE AND INTERCHANGEABLE

The "DUO" system allows the interchange of curing technology (from UV arc lamp to UV LED and vice versa) by means of a quick-removal "Toolless" cartridge.

Detection of the type of unit inserted is automatic as the system is equipped with a dedicated microprocessor that manages power variation.



WHY CHOOSE G-LED SYSTEMS

TURNKEY SOLUTIONS

Giardina Graphic, with over 40 years of experience in the printing industry, supplies complete curing systems ranging from optical units, cooling systems, power supply and user interface systems, guaranteeing perfect integration on the machines on which they are installed.

PRINT WITHOUT LIMITATIONS

UV LED inks enable printing on almost all stock types including PE, PET, PU, synthetic paper etc. and bring added value and increased product diversity with coated and uncoated papers, plastics and foil laminated sheets. Unlike UV arc lamps, LEDs emit little infrared heat towards the substrate. This avoids common issues such as high pile temperatures, curling of heat-sensitive materials and loss of moisture in paper.

FAST TURNAROUND

Instant ink curing enables jobs to be finished and shipped immediately. Sheets can be folded, cut, bound and processed immediately, reducing costs and significantly shortening delivery times.

MAXIMUM PRODUCTIVITY

No warmup/cool-down mean less UV related downtime, which increases press productivity.

REDUCED ENERGY CONSUMPTION

LED instant on-off means that no energy is consumed when the press is idle. The higher electrical efficiency of LEDs and the purity of UV output allow typical energy savings of over 70%, compared to standard UV systems.

NO MARKING, NO SEALER OR SPRAY POWDER

UV LED inks and varnishes are 100% cured instantly after the LED lamp. Marking of sheets in the delivery or perfecting process is eliminated and machine varnish or sealer is no longer necessary. No spray powder is required, removing widespread contamination.

HIGHER PRINTING QUALITY

G-LED systems ensure more vibrant colours and sharper dots, resuklting in a higher quality finished product.

POWER SUPPLY AND CONTROL SYSTEM

Power supplies are custom designed and manufactured by Giardina Graphic, exclusively to power our UV systems. They are housed in rack cabinets and internet connected. They meet the highest international safety standards and are engineered to guarantee protection against temperature changes, environmental overheating and humidity, possible accidental shocks, contamination by dust, ink mist and other contaminants.

TECHNICAL FEATURES

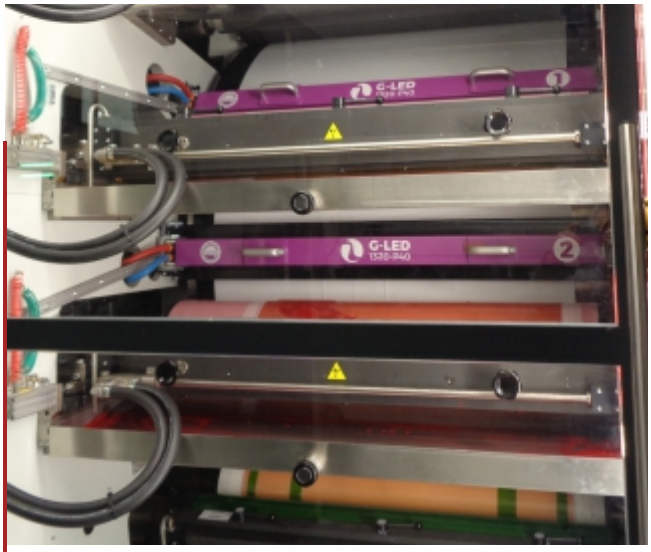
A HMI, with simple user interface for operating all key parameters, allows the operator to handle a vast array of commands and settings such as:

- Individual selection of the G-LED/UV modules to be used
- Independent power selection of each module with speed-proportional self-adjustment
- Information on hours of use of individual units and the entire system
- Self-diagnostics and alarm signalling
- «MONEY CHECK» function to view with display of instantaneous and cumulative energy use
- Storage and selection of recipes for production cycles
- Data mangement and integration with company network
- Remote assistance system G-CONNECT

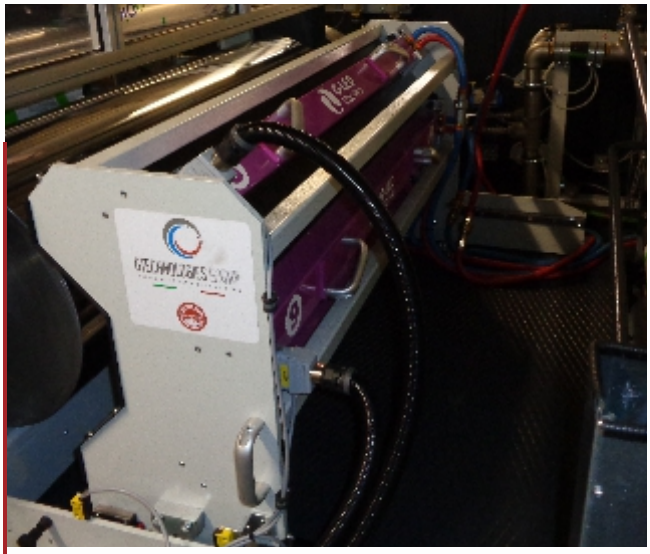
INSTALLATIONS

DRY-WEB

G-LED can be installed on web machines for label printing and packaging



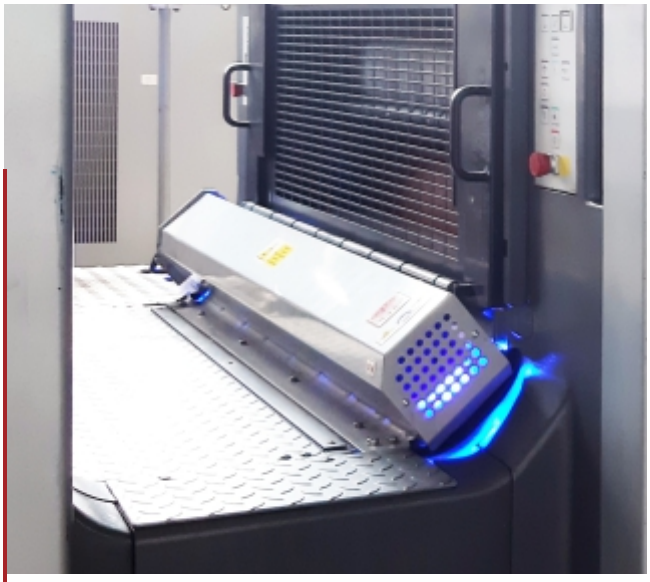
G-LED installation on CI drum



G-LED installation on final cooled cylinder

DRY-OFFSET IN

G-LED can be installed on sheetfed offset machines for printing and varnishing on paper, cardboard, metallised substrates and plastics.

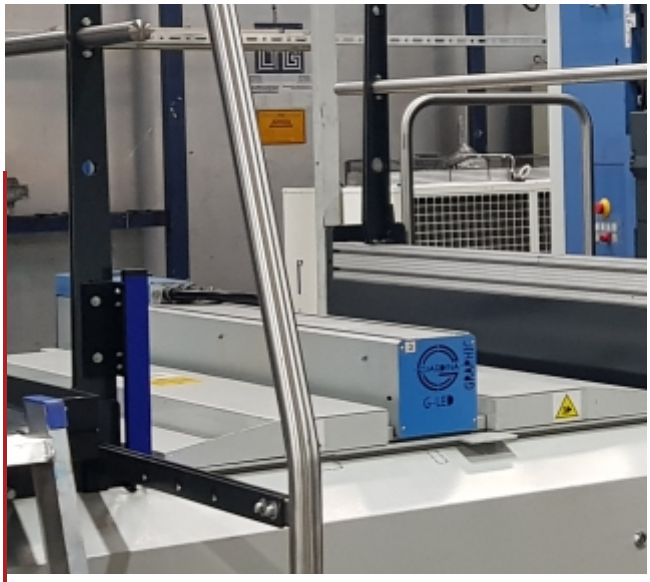


Interdeck G-LED installation

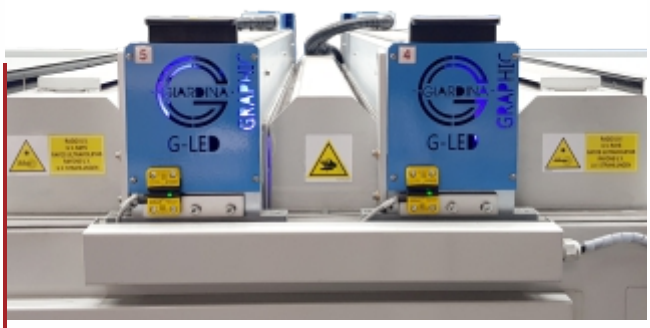
G-LED end-of-press installation

DRY-METAL

G-LED can be installed on sheetfed offset machines for printing and varnishing on aluminium and foil laminated sheets



interdeck G-LED installation



G-LED post-print installation

GLOBAL DRYING SOLUTIONS

- UV SYSTEMS
- EXCIMER SYSTEMS
- UV LED SYSTEMS
- HOT AIR SYSTEMS
- INFRARED SYSTEMS
- LABORATORY SYSTEMS
- ROLLER COATING SYSTEMS
- CONTROL AND MANAGEMENT SYSTEMS

High Quality Solutions For Printing Industry

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