

Natgraph



Electronic UV

Natgraph's Electronic UV system has been developed to take Ultra Violet curing to a new level of efficiency and control. It delivers higher levels of curing power but at drastically reduced running costs, resulting in a vastly improved yield for the UV curing process. Available as an option throughout the full range of new conveyerised Natgraph dryers' this technology utilises revolutionary electronic power supply technology that allows the optimum lamp power to be selected on a true stepless percentage basis. Full power is 170watts/cm (450 watts/inch), with a typical power saving of over 50% when compared to conventional transformer driven UV systems.



Electronic UV

Natgraph's Electronic UV ensures the UV curing process remains viable even when compared to digital print methods. The efficiency of the screenprinting process is improved as the running costs are dramatically reduced using this new technology, Electronic UV delivers a reduction in power consumption of over 50% when compared to standard systems.

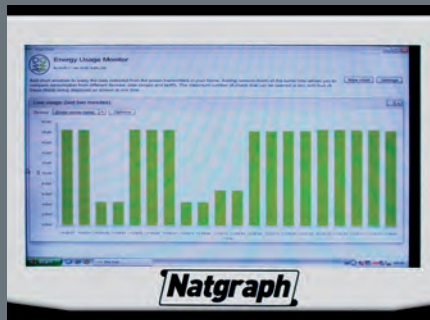
A fibre optic substrate sensor automatically controls the UV lamp power levels, when no substrate is detected for 20 seconds the lamp power instantly drops to a true 25% stand-by level. The electronic power supply system ensures the UV lamp is able to rise to the selected percentage power level as soon as the next sheet is detected. In production trials this technology has proved to save over 50% of total power usage during a typical shift, as well as extending the UV lamp life, resulting in a much lower cost of ownership.

This system delivers many benefits to improve yield; the electronic power supply is more efficient than a conventional transformer consuming 15% less power, loading is spread over all three electrical phases (instead of 2 with a transformer) therefore a smaller electrical power supply is required, the system can operate at a much higher power levels of 170watts/cm or 450 watts/inch, (allowing one lamp to be used instead of two) and heat output is reduced therefore temperature sensitive substrates can be processed.

Electronic UV Features

The revolutionary Natgraph Electronic UV system uses full electronic technology with the following advantages over conventional transformers:

- Proven power saving of 50% over conventional UV technology
- Selection of power output from 35% - 100% (by percentage)
- Substrate detector automatically switches lamps to stand-by of only 25%
- Lamps instantly recover to selected power level
- Extended lamp life due to lower power burning
- Electronic ballasts 15% more efficient than transformers
- 450 watts/inch (170watts/cm) maximum power
- 3.4 watts delivered to the substrate surface from 1 lamp (Iron lamp at 100% - EIT Power Map)
- Cool running with quartz infra-red filter system
- Instant Iron/Mercury lamp changeover
- Smaller electrical power supply required
- PLC control with unlimited recipe saving



Energy Monitoring



Power Control



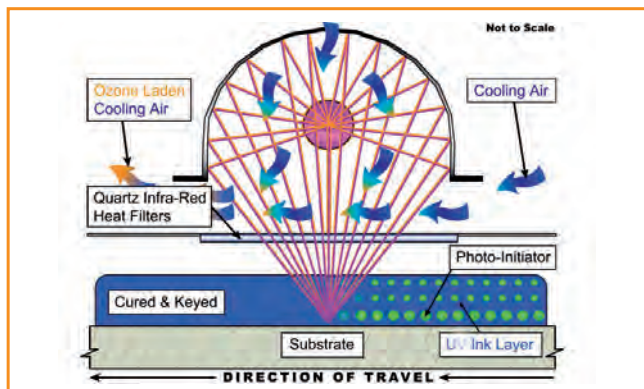
Substrate Sensor



PLC Control

Confirming Electronic UV

Standard transformers can only be operated at set power levels, (typically 70% and 100%) whilst Electronic UV power levels can be selected on an infinitely variable percentage basis from 50% to 100% of full power, allowing selection of the actual required power required and not just the nearest available power level, resulting in major cost savings. Settings can be saved into the PLC touch screen memory of the dryer to ensure the optimum condition is used on each and every job. Also, operators have no time to switch a dryer down to stand-by when a pause in printing is required to attend to an inclusion, to replenish the ink, to check register or even to get a colour match approved. Many operators will leave the dryer switched on during a drink break or even over lunchtime. Operators do not usually realize how much energy a UV dryer can consume and will not appreciate the (rising) costs of electrical power. This system does all of that for them, automatically. To test the case, Natgraph installed monitoring software within the standard PLC control system of several UV dryers installed in the field to confirm the typical percentage of time a UV dryer is actually curing prints during a shift. The results showed that the typical time the dryer is actually curing varied from 40% to 55% of a shift. Add this wasted operational energy to the increased energy consumption of transformer systems, then add in the higher power used when the dryer can only be set at the nearest available power level and the savings are massive. Also add the benefits of extended UV lamp life (because of the lower power stand-by periods) and Electronic UV can save over 50% of power usage, every shift, every week and every year.



Download our
brochures at:
www.natgraph.co.uk

t +44 (0) 115 97 95 800
f +44 (0) 115 97 95 700
e info@natgraph.co.uk

Natgraph Ltd,
Dabell Avenue,
Blenheim Industrial Estate,
Nottingham, NG6 8WA, UK