

Press Information

KYOCERA's New Air-Cooled UV Curing Light is World's Smallest, Lightest and Most Powerful

Supports UV ink printing, including billboard printing, as well as UV-cured coatings and adhesives

Kyoto/London – March 28th, 2018. Kyocera Corporation (President: Hideo Tanimoto) announced today that it has developed a new air-cooled UV-LED curing light that is not only the world's most powerful¹, but also the world's smallest². The new Kyocera G5A Series is ideal for use in industrial ultraviolet (UV) ink printing applications, including billboard printing, as well as UV-cured coating and adhesive processes.

Kyocera's proprietary technology results in the world's highest UV intensity (24W/cm²) among air-cooled curing lights for UV printing. This product sets a new industry standard by offering the highest performance in a package that is also both the world's lightest and smallest, at about half the size of a conventional air-cooled UV curing light offering high UV intensity (16W/cm²).



G5A Series UV-LED curing light

Product Overview

Model	G5A Series		
LED wavelength	365nm	385nm	395nm
UV intensity (WD=0mm)	16W/cm ²	24W/cm ²	
Accumulated light (50m/min)	250mJ/cm ²	350mJ/cm ²	
Irradiation area	80mm		
Size (Width x Length x Height)	80.3 x 88.0 x 150.5 (mm)		
Weight	950g		
Production facility	Shiga Yohkaichi Plant		
Sales target	1 billion yen by FY20 (Fiscal year ending March 2020)		

¹ Based on research by Kyocera; among air-cooled UV-LED curing lights for UV printing (as of February 28, 2018).

² Based on research by Kyocera; among air-cooled UV-LED curing lights with a higher UV intensity than 12W/cm² (as of February 28, 2018).

Development

UV printing is a printing method that uses ultraviolet light to cure ink immediately as it is printed, thus allowing for printing on a wide variety of non-paper media, including plastic sheets. In addition to its convenience, this printing method is more environmentally friendly, using energy-efficient LED lights. The G5A Series incorporates Kyocera's proprietary ceramic substrate with excellent heat conductivity in a heat-radiating modular design, which allows LED elements to be mounted at an exceptionally high density. Since it employs an integrated air-cooling system which eliminates the need for supplemental liquid cooling equipment, it can help reduce total equipment costs while saving space. Furthermore, its scalable structure allows users to adjust irradiation width, enabling full design optimization to suit a wide range of applications and printing media.

Background

New applications keep emerging for UV printing based on long-lasting, energy-efficient LEDs as a curing source. According to [Yole Developpement](#), a global research company based in France, the UV curing market is expected to expand to approx. USD300 million by 2019³. Demand for high-speed UV printing is rising especially among wide-format inkjet billboard-printing applications, coating applications and adhesive applications. Design requirements increasingly specify an air-cooled UV light with high output for higher productivity.

Main Features

1. World's highest UV intensity among air-cooled UV curing lights

Using Kyocera's ceramic substrate, with its excellent heat conductivity, and a heat-radiating design incorporating a heatsink, Kyocera's G5A system provides the world's highest UV intensity ($24\text{W}/\text{cm}^2$) among air-cooled UV-LED curing lights. In addition, it can achieve $350\text{mJ}/\text{cm}^2$ (50m/min) of accumulated light, an important indicator of curing performance, thus enabling high-speed curing.

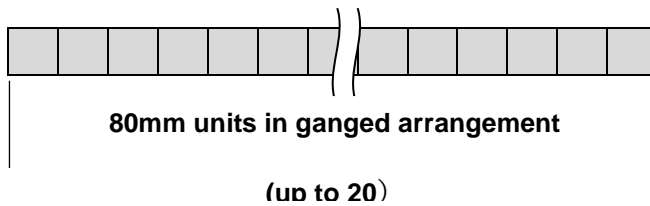
2. World's smallest

The G5A Series requires less space, and is the industry's most lightweight system, as it employs its own air-cooling technology with no additional equipment, whereas the conventional water-cooled LED lamps require circulating water cooling equipment such as a chiller. Accordingly, the air-cooled UV-LED curing light reduces initial equipment investment costs. The world's smallest size ($80.3 \times 88.0 \times 150.5$ mm) and lightest weight (950g) contribute to space savings for the overall system.

³ Source: Yole Developpement (UV LEDs: Technology, Manufacturing and Application Trends)

3. Connectable structure offers scalable irradiation width

Connecting the units can support diverse applications and media — from fine characters, figures and barcodes to printing on large-scale building materials. The irradiation width can be controlled from 80mm to 1,600mm, in addition to permitting unnecessary light sections to be turned off in 26.5mm increments via serial communications, so the system focuses on the printed area.



Three 80mm units connected in tandem

4. Monitoring system optimizes performance

A monitoring system allows users to track irradiation conditions, including LED temperature and current, fan operating time and accumulated irradiation time, via serial communications. The system notifies the user when it's time to replace filters, or if abnormalities are detected, ensuring stable operation and optimal performance.

For more information on KYOCERA: www.kyocera.co.uk

About KYOCERA

Headquartered in Kyoto, Japan, Kyocera Corporation is one of the world's leading manufacturers of fine ceramic components for the technology industry. The strategically important divisions in the Kyocera Group, which is comprised of 231 subsidiaries (as of March 31, 2017), are information and communications technologies, products which increase quality of life, and environmentally friendly products. The technology group is also one of the oldest producers of solar energy systems worldwide, with more than 40 years of experience in the industry.

The company is ranked #522 on Forbes magazine's 2017 "Global 2000" listing of the world's largest publicly traded companies. With a global workforce of over 70,000 employees, Kyocera posted net sales of approximately €11.86 billion in fiscal year 2016/2017. The products marketed by the company in Europe include printers, digital copying systems, microelectronic components, and fine ceramic products. The Kyocera Group has two independent companies in the United Kingdom: Kyocera Fineceramics Ltd. and Kyocera Document Solutions.

The company also takes an active interest in cultural affairs. The Kyoto Prize, a prominent international award, is presented each year by the Inamori Foundation — established by Kyocera founder Dr. Kazuo Inamori — to individuals and groups worldwide who have contributed significantly to the scientific, cultural, and spiritual betterment of humankind (converted at approximately €400,000 per prize category).



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