

## Press information

Contributing to faster inkjet label printing with 70% reduced power consumption

## **Kyocera Announces Development & Commercialization of LED-UV Curing System which Supports the Industry's Fastest Label Printing**

**Kyoto / Neuss, 14. July 2011 – Kyocera Corporation today announced that it has developed the KVL-G3 Series LED-UV curing system, a key component in industrial printing machines, which supports the industry's fastest label printing (80m/min.)<sup>\*1</sup> for use in UV curing-type printing — a printing method that hardens and fixes ink with irradiating ultraviolet (UV) rays. Moreover, the new product achieves a 70% reduction<sup>\*2</sup> in power consumption by using light-emitting diodes (LEDs) in place of conventional lamp-system products (metal halide<sup>\*3</sup>). The KVL-G3 Series was made available to the market on July 8.**

Recently, the use of digital printing, which enables fast printing of even small-volume wide-variety labels in a short delivery time, is expanding in the label printing market mainly engaged in printing product packages for commodities such as beverages. Among the various printing methods, the UV curing-type attracts attention due to its convenience in allowing printing on a wide variety of non-paper media including plastic sheets, as it enables printing without the need for ink to penetrate the print medium, as well as its eco-friendly composition that does not use volatile organic compounds (VOCs) as solvents.

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The KVL-G3 Series features a power-saving system which enables a 70% reduction in electricity consumption compared to existing lamp-system products (metal halide) by using LEDs as the light source for curing ink. In addition, thanks to Kyocera's proprietary high-density packaging technologies, the company has succeeded in arranging LED chips on a high-density surface as opposed to in-line conventional products. With this development, Kyocera has enabled the fastest label printing capability for the UV curing-type printing method in the industry (80m/min).

Kyocera has been actively rolling out inkjet printheads, key devices for digital printing, which feature high-speed, high-definition and highly reliable printing. With the launch of this product, the company proposes an even more efficient printing method by combining its inkjet printhead and LED-UV curing system. In addition, in other markets such as offset printing, Kyocera will actively encourage customers to replace their current UV curing systems — which use much higher energy-consuming lamps — with this new product by focusing on its superior energy-saving features. In doing so, Kyocera aims to contribute to reducing the environmental burden within the printing industry.

Kyocera will exhibit this product at the Auto ID Expo 2011, which will be held from August 31 to September 2, 2011, at the Tokyo Big Sight international convention center.

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### Product Features

#### **1. Consistent curing performance that enables high-speed printing**

An industry first, Kyocera mounted LED chips in high density on a heat releasing ceramic substrate utilizing the company's core technology, and has thus developed a surface area-emitting LED-type UV light with high illuminance and integral light. This light enables consistent curing performance even during high-speed printing.

#### **2. Improved illuminance via micro lens array**

Installation of a micro lens array (small lenses arranged in bundles), which is optimized for surface emission of UV-LEDs, improves illuminance and reduces degradation of illuminance over increasing distance.

#### **3. Substantial energy and space saving via use of LEDs**

The use of LEDs as a UV light source achieves a 70% reduction in power consumption under full-lighting conditions compared to existing lamp-system products (metal halide), as well as a substantial cost reduction because the cost and manpower for replacing lamps becomes obsolete. At the same time, substantially simplified auxiliary facilities for evacuation of air and cooling enable space saving in the overall installation of equipment.

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### **4. Extended product life via integrated water-cooling heat-sink structure**

By using an integral structure for the substrate and water-cooling heat sink (which reduces temperature in the equipment by dissipating heat), the LED module may be cooled down efficiently while illuminance is maintained at the same time. The result is enhanced product life due to minimal temperature increases.

### **5. Enhanced energy savings via Kyocera's proprietary controls**

Kyocera's proprietary LED emitting controller enables adjustment of the LED source, light control and light-emitting width. This light-emitting width adjustment function makes it possible to turn off unused LEDs according to the print media width. In addition, an external remote function enables the light to be turned on or off in conjunction with the printer's operation, achieving energy savings by taking advantage of the characteristics of LEDs.

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### Product Overview

Series	<b>KVL-G3 Series LED-UV Curing System</b>		
Product	<b>KVL-S05E-G3</b>	<b>KVL-S09E-G3</b>	<b>KVL-S09E-G3S</b>
Size of irradiator (Width x Depth x Height)	252×83×170(mm)	360×83×170(mm)	
LED wave length	385nm		
Irradiation area	110×48(mm)	220×48(mm)	220×24(mm)
Designated life	15,000 hours		
Weight	2.5kg	2.8kg	
Controller	KVC-05 (200-240V AC)	KVC-09 (200-240V AC)	KVC-09S (200-240V AC)
Production Plant	Shiga Yohkaichi Plant (Shiga Prefecture, Japan)		
Sales target	Starting from 300 million yen for FY2012 and aiming at 5 billion yen for FY2016		

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\*1 Based on research by Kyocera. This speed is confirmed in inkjet type label printing (as of July 7, 2011).

\*2 Based on research by Kyocera. Estimated using the KVL-S09E-G3 when compared to a metal halide lamp of 4.8kW, and based on the following conditions: 8 hours/day x 250 days of operation/year

\*3 A lamp utilizing light emission with electric discharge of mercury and halogenated metal (metal halide).

### For more information about Kyocera Printing Devices:

<http://global.kyocera.com/prdct/tfc/index.html>

### 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 208 subsidiaries (as of March 31, 2011), are information and communications technologies, products which increase quality of life, and environmentally friendly products. The technology group is also one of the largest producers of solar energy systems worldwide.

With a global workforce of about 66,000 employees, Kyocera posted net sales of approximately €10.74 billion in fiscal year 2010/2011. The products marketed by the company in Europe include laser printers, digital copying systems, microelectronic components, fineceramic products and complete solar power systems. The Kyocera Group has two independent companies in the Federal Republic of Germany: Kyocera Fineceramics GmbH in Neuss and Esslingen and Kyocera Mita Deutschland GmbH in Meerbusch.

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 present €430,000 per prize category).

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