

Press Information

Innovations at drupa: Kyocera launches new inkjet printhead "KJ4B-EX600-RC" with ink recirculation

Kyocera will be exhibiting at drupa, the world's largest international exhibition for the printing and media industry, and showcases its latest product developments, including KJ4B-EX1200-RC as well as new KJ4B-EX600-RC inkjet printhead, which achieves industry-leading productivity¹ across a wide range of printing applications.

Kyoto/London, 15th May 2024. Kyocera Corporation has developed a new inkjet printhead with ink recirculation technology at the nozzle. Available now, the new KJ4B-EX600-RC (hereinafter "printhead") achieves industry-leading productivity¹ over a wide range of printing applications, including textiles, corrugated board, and building materials, and is compatible with a wide range of inks. It will be unveiled alongside other product innovations at [drupa](https://www.drupa.com/), the international trade fair for the print and media industry (hall 10, booth number A11).

Inkjet Printhead KJ4B-EX600-RC



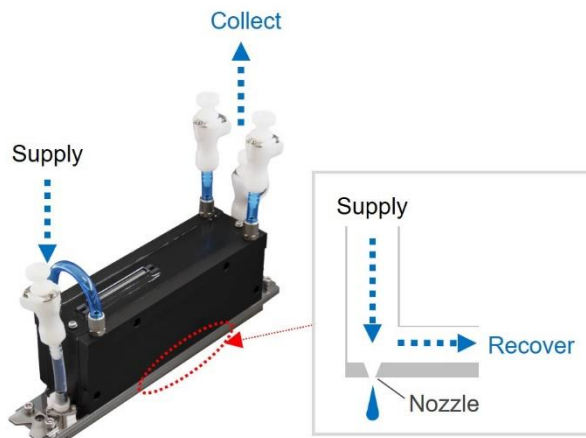
Model	KJ4B-EX600-RC
Dimensions	200.0×30.0×68.2 mm (Width x Depth x Height)
Maximum print speed	101.6 m/min
Resolution	600 dpi
Effective print width	108.3 mm
Maximum jetting frequency	40 kHz
Maximum drop volume	14 pL (at 40 kHz) / 18 pL (at 30 kHz) / 24 pL (at 20 kHz)
Compatible ink	Aqueous
Development facility	Kagoshima Kokubu Plant (Japan)

¹ As of March 1, 2024, according to a survey by Kyocera.

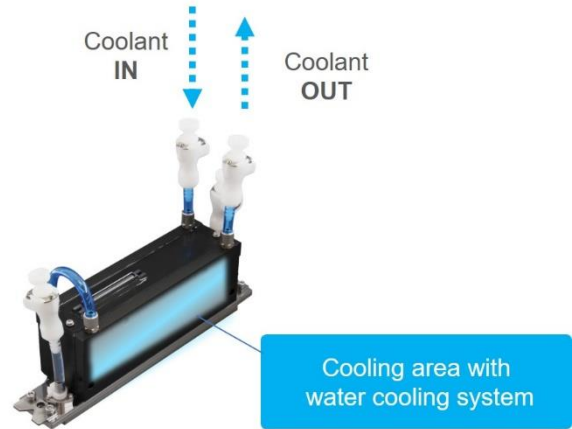
Features:

1. Ink recirculation at the nozzle allows compatibility with a wider variety of inks, including fast-drying inks, over a wider range of applications.

Kyocera’s unique technology recirculates ink around the nozzle, which prevents nozzle drying, while promoting temperature uniformity and inhibiting ink sedimentation. These features allow stable printing with various kinds of inks, including fast-drying formulations, while reducing routine maintenance, such as printhead cleaning when rebooting a printer. This new printhead also incorporates a water cooling system² as a standard feature, enhancing stability in continuous, high-speed, high-quality printing.



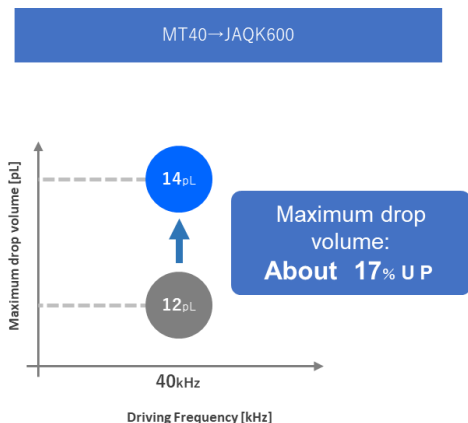
Ink recirculation technology



Water cooling system

2. Higher productivity through high driving frequency and greater maximum drop volume.

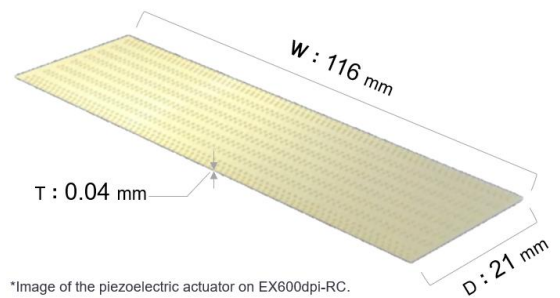
By optimizing the ink-flow-channel design and printhead structure, the maximum drop volume of ink ejected from nozzles has been increased to 14 pL, about 17% greater than the previous model at a driving frequency of 40 kHz, with improved jetting stability. With a wide effective printing width of 108.3 mm, Kyocera’s printhead achieves high precision and industry-leading productivity.¹



² Heat-transfer method to cool the driving board installed on the printhead.

3. High print quality through Kyocera's unique monolithic piezo actuator³.

Kyocera has developed a large monolithic piezoelectric actuator, using proprietary material design technology for dense polycrystalline ceramic actuators, and manufacturing technology for thin piezoelectric ceramic substrates. Kyocera has now optimized and adopted the technology for this printhead (width: 116 mm x depth: 21 mm x thickness: 0.04 mm). By using a large monolithic piezoelectric actuator, Kyocera has achieved uniform image quality within the printhead and higher print quality.



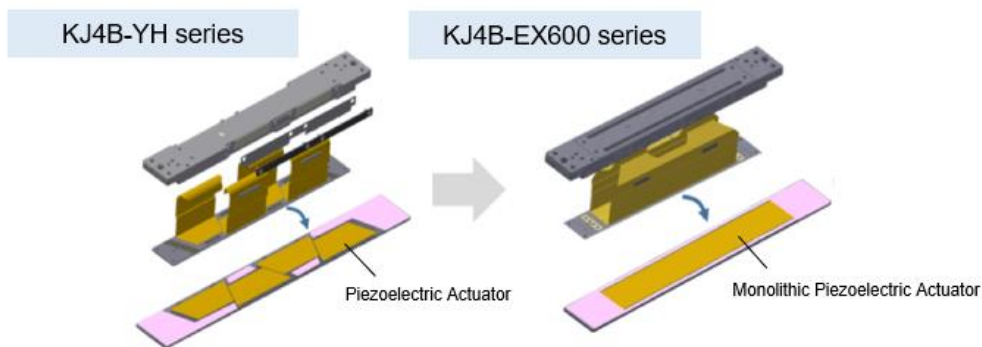
*Image of the piezoelectric actuator on EX600dpi-RC.

Monolithic piezoelectric actuator

4. High durability achieved through a simple and robust flow-channel structure with stainless steel lamination.

Adopting a monolithic piezoelectric actuator increases design flexibility and results in a simple and robust structure. This provides improved strength and structural stability for enhanced durability.

<Structural design>



Kyocera at drupa (May, 28th – June, 7th, 2024)

Kyocera will present this new inkjet printhead for the first time at drupa, the world's largest international exhibition for the printing and media industry (hall 10, booth number A11). Another inkjet printhead, the KJ4B-EX1200-RC will also be showcased:

³ Piezo actuator: specialized component that generates ink-jetting power using the piezoelectric effect of fine ceramics.

KJ4B-EX1200-RC:



1200dpi inkjet printhead with ink recirculation achieves industry-leading jetting performance⁴. Kyocera has improved productivity by realizing the high driving frequency and increasing the maximum drop volume by 43% compared to the previous model. Better productivity makes optimizing drop volumes for commercial printing and package printing segments possible. In addition, Kyocera's unique technology also recirculates ink around the nozzle, allowing stable printing with various inks, including fast-drying formulations.

Details of the Kyocera stand

Trade fair	drupa
Date	May, 28th – June, 7th 2024
Venue	Düsseldorf, Germany
Kyocera stand	Düsseldorf Exhibition Centre Hall 10, booth number A11

⁴ According to a survey by Kyocera, as of March 1, 2024.



For more information on Kyocera: uk.kyocera.com

About Kyocera

Kyocera has been successful in Europe for over 50 years. From its European headquarters in Esslingen am Neckar, KYOCERA Europe GmbH operates 26 sites including manufacturing facilities, with products ranging from fine ceramics, electronics, automotive, semiconductor and optical components to industrial tools, LCDs, touch solutions, industrial printing components, solar systems and consumer goods such as kitchen and office products.

KYOCERA Europe GmbH is a company of the KYOCERA Corporation headquartered in Kyoto/Japan, a world leader in semiconductor, industrial and automotive components as well as electronic components, printing and multifunction systems, and communications technology. The technology group is one of the world's most experienced manufacturers of smart energy systems, with more than 45 years of industry expertise. The Kyocera Group comprises 292 subsidiaries (31 March 2024). In England, Kyocera has a subsidiary in Frimley, KYOCERA Fineceramics Ltd. With around 79,200 employees, Kyocera generated net annual sales of around EUR 12.29 billion in the 2023/2024 fiscal year.

Kyocera is ranked 672 on Forbes magazine's 'Global 2000' list for 2023, and ranked as 'The 100 Most Sustainably Managed Companies in the World' according to the Wall Street Journal. For the second year in a row, Kyocera qualified for the Dow Jones Sustainability Index (Asia-Pacific). As well, Kyocera receives a Gold rating on EcoVadis Sustainability Survey for the second consecutive year and was acknowledged as a 'Top 100 Global Innovator 2024', being one of the world's leading innovators, for the eighth time by Clarivate.

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 worldwide who have contributed significantly to the scientific, cultural, and spiritual betterment of humankind (equivalent to approximately €596,500 per prize category).

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