

Press Information

Kyocera launches revolutionary TPA series thermal printhead

Offers industry’s highest speed with exceptional quality for barcode labels in healthcare, food processing, other key markets.

Kyoto/Esslingen, 20th August 2025. Kyocera Corporation has unveiled the new "TPA Series" thermal printhead, which delivers exceptional printing quality at an impressive speed of 250 mm per second (mm/s) — setting a new industry benchmark¹ for barcode label applications. These printheads will enhance productivity in many fields, including distribution, food processing, and healthcare. Full-scale production is planned for August 2025.



Kyocera TPA series thermal printhead for barcode labels

Product name	"TPA Series" thermal printhead for barcode labels
Model number	TPA-108-8TCC2-PFS TPA-108-8TCC2-PFS TPA-108-8TCC2-PFS3
Applications	Barcode labels Desktop printers
Mass production	August 2025

¹ Among thermal printhead products designed for desktop printers; Kyocera research, July 2025.

Main features

1. High-quality printing at industry's fastest speed (250 mm/sec.).
2. Expanded head mounting position tolerance.
3. Excellent environmental resistance and low wear for long-distance running.

Development background

With the rising trend toward urbanization in emerging economies and the increasing demand for consumer goods, including food, clothing, and housing, the volume of logistics continues to intensify. In the food processing industry, barcode printing demand has surged with rising requirements to provide product and delivery details, including mandatory nutritional information. Meanwhile, methods to improve operational efficiencies and decrease labor costs are needed worldwide. Faster, more durable thermal printheads for printing labels and barcodes are required for reliable, high-volume and varied applications.

Product specifications

1. High-quality printing at the industry's fastest speed (250 mm/sec.)

Kyocera's unique heating element formation technology has achieved the industry's fastest printing speed of 250 mm/sec. Furthermore, even at high printing speeds, the printing remains clear from start to finish, with higher definition and quality.

< Output Quality Comparison > ※2

Applied Energy	TPA Series	General
0.14mj	B(2.5)	B(3.0)
0.16mj	A(3.9)	F(0.0)
0.20mj	A(4.0)	F(0.0)

※2 Printing conditions

Applied power: 0.72W/dot

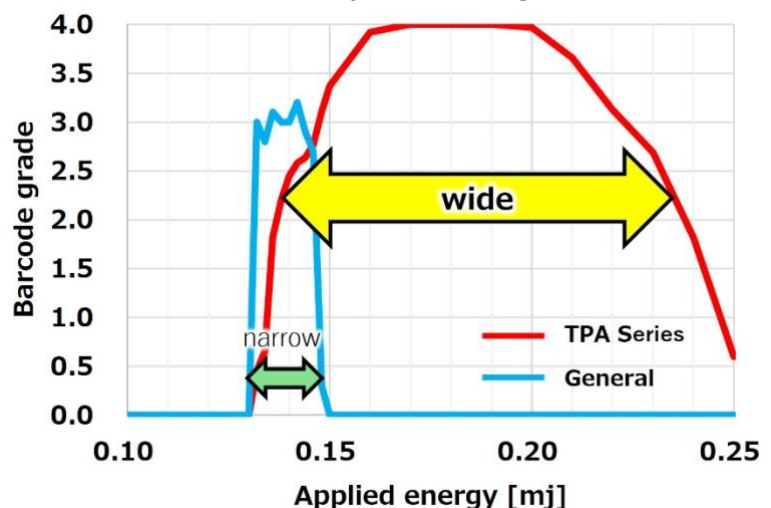
Recommended speed: 250mm/s

Symbol: Code39 (Ladder)

Thermal paper: 150LA-1(Ricoh)

Without history control

< Graph of print quality evaluation grade transition >

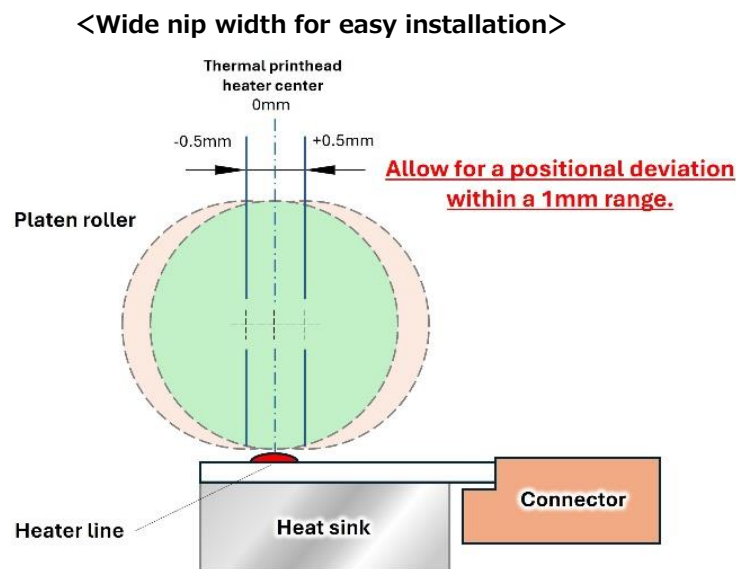


Evaluation grades for barcode print quality standard: ISO15416

Grade	Evaluation	Interpretation
A	3.6~4.0	Readable by scanning each section once
B	2.5~3.5	Readable if scanned multiple times
C	1.5~2.4	Readable if multiple locations are scanned once
D	0.5~1.4	Readable if multiple locations are scanned multiple times
F	0.0~0.4	Reading is not possible or not reliable

2. Flexible head mounting positions support a wide variety of print media

To achieve high print quality, the conventional head structure has been improved, and heat conduction from the heating element has been enhanced for broader head mounting position tolerance. Stable, high-quality printing is now possible on a wide variety of print media across the entire printing width.



Cross-sectional schematic diagram

< Comparison of setting position and output quality > ※2

Setting Position	-0.5mm	0.0mm	+0.5mm
TPA Series	 A(4.0)	 A(4.0)	 A(4.0)
General	 F(0.0)	 B(2.9)	 F(0.0)

※2 Printing conditions

Applied power: 0.72W/dot

Recommended speed: 250mm/s

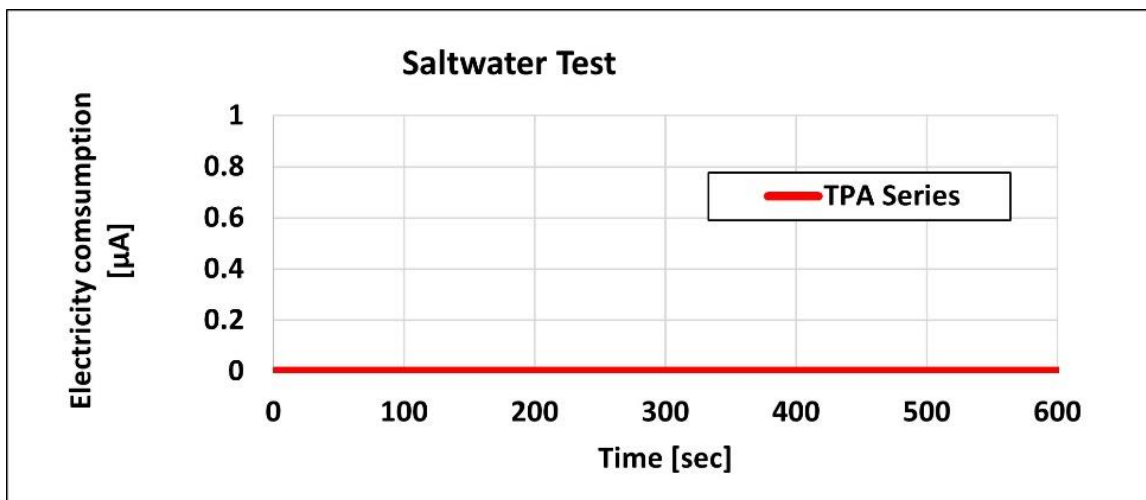
Symbol: Code39 (Ladder)

Thermal paper: 150LA-1(Ricoh)

Without history control

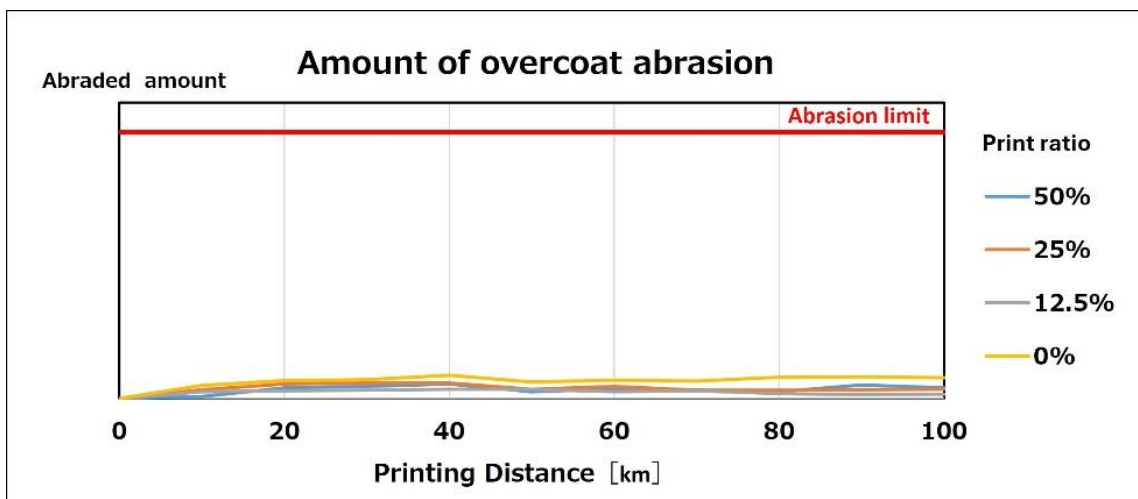
3. Withstands severe environmental conditions, offering reduced wear and extended life

The TPA Series provides improved corrosion and wear resistance through Kyocera's unique film deposition technology. As a result, the printhead's superior robustness even under severe environmental conditions contributes to longer life with less wear over extended duty cycles.



Confirmation of corrosion resistance (zero microamps consumed) after 10 minutes in saltwater.

*Kyocera research, July 2025



Durability test: even after printing more than 50km of thermal paper, printhead wear remains low with continued durability and performance.

*Kyocera research, July 2025

Printer	Kyocera evaluation printer for TPA series
Thermal paper	150LA-1 (RICOH Technologies, direct thermal label paper)
Platen roller:	Diameter: 14 mm Hardness: 45 Shore A
Pressure	31.5 N
Print speed	250 mm/s
Print patterns	1: Print ratio 50% 2: Print ratio 25% 3: Print ratio 12,5% 4: Print ratio 0%
Printing distance	100 km

The press material is available for download via the following link:

<https://spgroup.box.com/s/ds47dcyvoak796k8fgh9qr3a4960zfvz>



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 28 sites including manufacturing facilities, with products ranging from fine ceramics, automotive, semiconductor and optical components to components for medical products, industrial tools, LCDs, touch solutions, industrial printing components, and consumer goods such as kitchen and office products.

KYOCERA Europe GmbH is a company of the [KYOCERA Corporation](#) headquartered in Kyoto/Japan, a renowned supplier in semiconductor, industrial and automotive components as well as electronic components, printing and multifunction systems, smart energy systems, and communications technology. Kyocera is one of the most experienced technology producers, with more than 65 years of industry expertise. The Kyocera Group comprises 288 subsidiaries (31 March 2025). With around 77,200 employees, Kyocera generated net annual sales of around EUR 12.43 billion in the 2024/2025 fiscal year.

Kyocera is ranked 874 on Forbes magazine's 'Global 2000' list for 2024 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 Bronze rating on EcoVadis Sustainability Survey and was acknowledged as a 'Top 100 Global Innovator 2025' for the ninth time by Clarivate, being one of the world's leading innovators.

Kyocera 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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