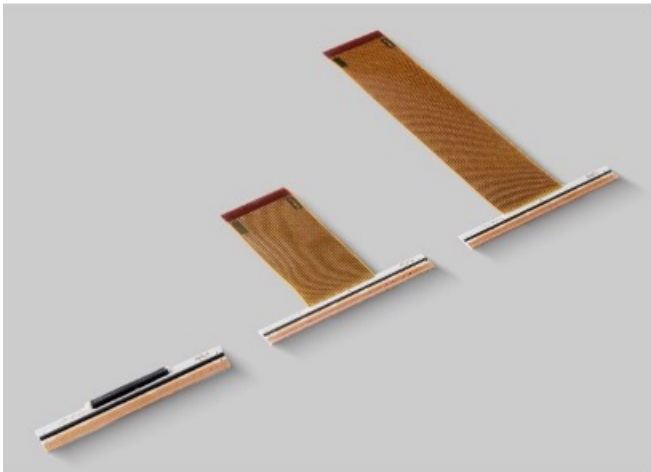


Press Information

Kyocera unveils breakthrough thermal printhead for high-speed, eco-friendly POS systems

TPA series delivers industry-leading speed, superior print quality, and enhanced sustainability for retail and service industries.

Kyoto/London, 04th September 2025. Kyocera Corporation introduces a breakthrough in POS¹ receipt printing applications with its new “TPA Series” thermal printhead. Delivering high-quality printing at an industry-leading speed of 350 mm/sec, the new printhead is ideal for retail and service industries such as convenience stores and restaurants. Full-scale production is planned for the end of August 2025.



Kyocera TPA series thermal printhead for POS receipts

Product name	"TPA Series" thermal printhead for POS receipts
Model number	TPA-80-8TCC2-PFS TPA-80-8TCC2-PFS2 TPA-80-8TCC2-PFS3
Applications	POS receipt printer
Mass production	End of August 2025

¹ POS: Point Of Sale

Main features

1. High-quality printing at industry's fastest speed (350 mm/sec)
2. Expanded head mounting position tolerance
3. Excellent environmental resistance and low wear for long-distance running
4. Supports [Blue4est® paper](#) for eco-friendly, phenol-free, high-quality printing

Development background

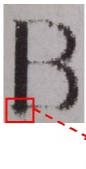
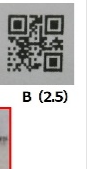
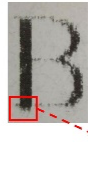
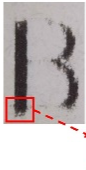
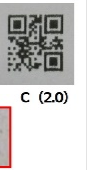
In recent years, with the rapid adoption of cashless transactions, including digital currencies and payment apps, payment methods have become increasingly diverse. In retail and service industries such as restaurants, convenience stores, and drugstores, the trend toward self-checkout systems is progressing to reduce labour and maintenance costs, and enhance operational efficiency. The amount of information printed on receipts and coupons generated from POS systems is also increasing along with the demand for thermal printers that operate without ink or toner, require little or no maintenance, and print large amounts of information quickly and accurately. As a result, demand is also rising for the key component of these crucial POS systems: thermal printheads that enable high-speed, high-quality, high-volume printing.

Product specifications

1. High-quality printing at industry's fastest speed (350 mm/sec)

Kyocera's proprietary heating element formation technology offers greatly improved print quality. Even at the high speed of 350 mm/sec, the printhead demonstrates excellent thermal response providing clear, high-definition printing from the start to the end of each character.

• Output quality comparison

Speed - Applied Energy	TPA Series	General	Print direction ↓	[Conditions]	
				Printer	Kyocera equipment
250mm/sec - 0.21mJ	  A (4.0)	  B (2.5)		Applied energy	0.21 mJ, 0.16 mJ
350mm/sec - 0.16mJ	  B (3.2)	  C (2.0)		Thermal paper	PD160R (Oji Imaging Media Co., thermal paper)
				Platen roller	Diameter 14 mm
				Hardness	60 Shore A
				Pressure	21.5 N
				Print speed	250 mm/sec • 350 mm /sec
				History control	No

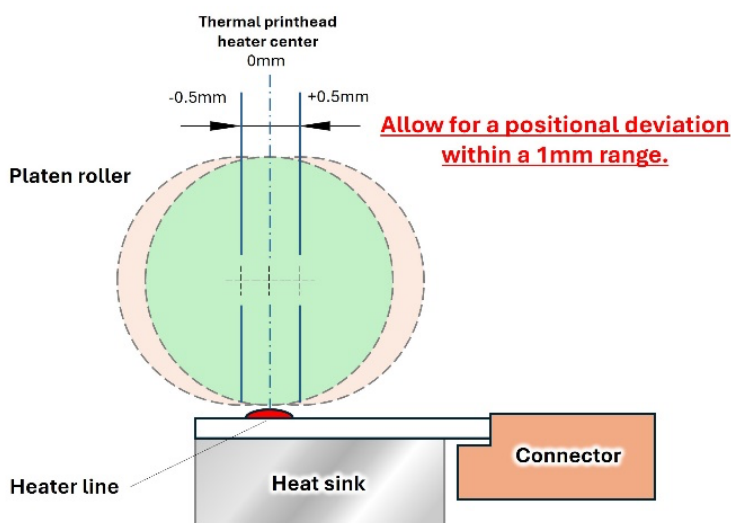
Evaluation grades for barcode print quality (standard: ISO15416)

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. Expanded head mounting position tolerance

To achieve high print quality, Kyocera has evolved the conventional printhead structure and improved heat conduction from the heating element, thereby expanding the allowable range of head mounting positions. As a result, stable, high-quality printing is possible across the entire print width on a wide variety of printing media.

- **Wide nip width for easy installation**



	NIP width
TPA Series	±0.6mm
General	±0.4mm

[Conditions]

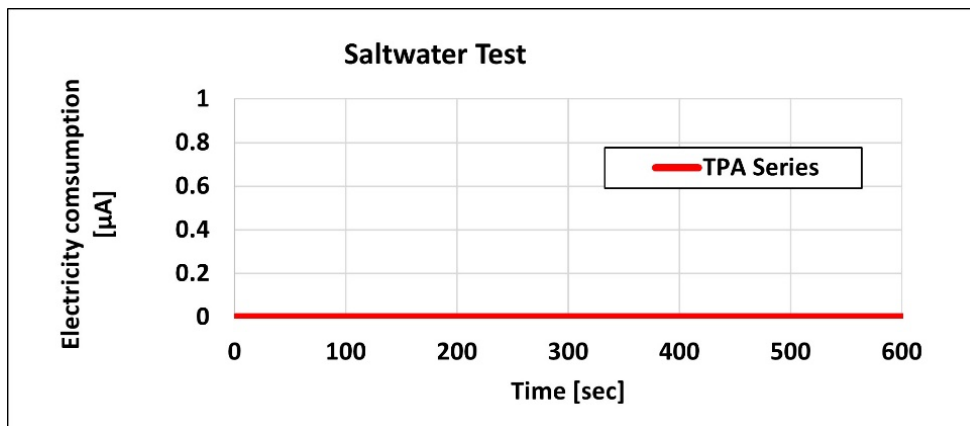
Printer	Kyocera equipment
Print speed	250 mm/sec
Print patterns	Code39 (Ladder)
Thermal paper	PD160R (Oji Imaging Media Co., thermal paper)
History control	No

Cross-sectional schematic diagram

3. Excellent environmental resistance and low wear for long-distance running

This product improves corrosion and wear resistance through Kyocera's proprietary film formation technology. It achieves high durability, minimal wear, and enables long-life over high print volumes (distance).

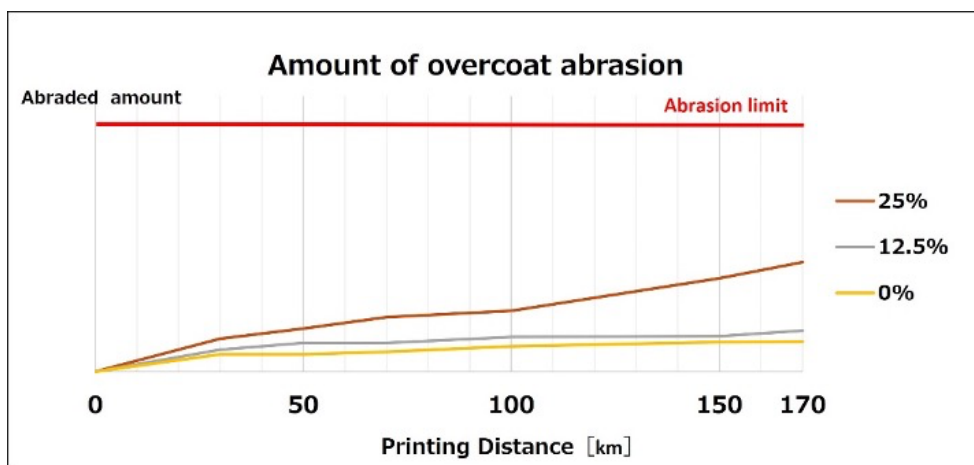
- Saltwater test



Testing confirms that electrical conductivity and sealing (corrosion resistance) remain unaffected after 10 minutes in a saltwater environment.

*Kyocera research, July 2025

- Durability test



Demonstrated durability for printing distances exceeding 170 km.

*Kyocera research, July 2025

[Conditions]

Printer	Kyocera equipment
Thermal paper	PD160R (Oji Imaging Media Co., thermal paper)
Platen roller:	Diameter: 14 mm Hardness: 60 Shore A
Pressure	21.5 N
Print speed	350 mm/s
Print patterns	1: Print ratio 12,5 % 2: Print ratio 25 % 3: Print ratio 0 %
Printing distance	170 km

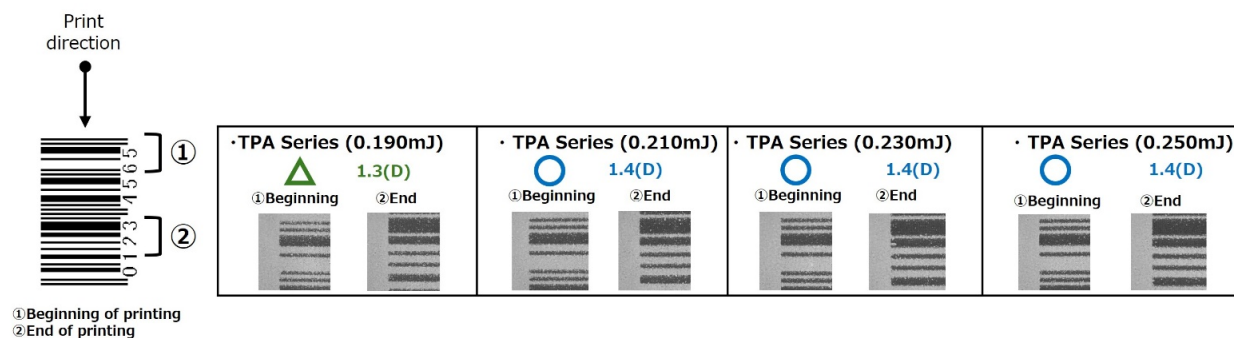
4. Supports Blue4est[®] paper for eco-friendly, phenol-free, high-quality printing

Demand is rising for environmentally friendly, phenol-free thermal paper and Blue4est^{®2} paper by Koehler Paper, a thermal paper that does not use chemical colour developers or colour formers. By avoiding these chemicals, Blue4est[®] paper can be recycled, reducing its ecological impact. Kyocera's TPA series is compatible with Blue4est[®] paper, supporting reduced chemical usage and promoting recycling, while meeting diverse media and printing needs.



Blue4est[®] paper

• Image quality performance

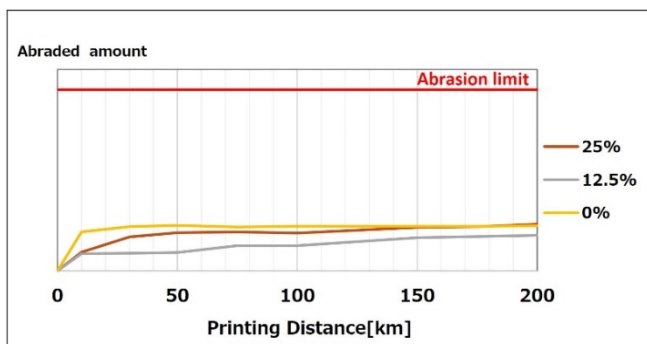


² Blue4est[®] is a registered trademark of Koehler Paper AG in Germany and other countries.

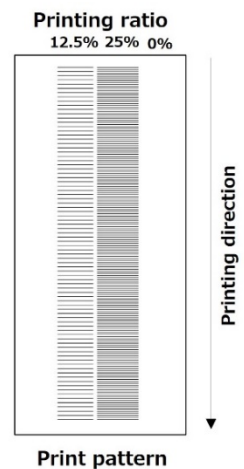
[Conditions]

Printer	Kyocera equipment
Media	Blue4est®
Platen	Diameter: 14 mm Hardness: 60 Shore A
Pressure	21.5 N
Print speed	250 mm/s
Without history control	
Print patterns	Described left
Measuring device	LVS-9580 (grades for barcode) X-Rite eXact (O.D.Value)

- Durability test**



Printer : Kyocera equipment
Thermal paper : Blue4est®
Platen roller : Diameter: 14 mm
Hardness: 60 Shore A
Pressure : 21.5N
Print speed : 250mm/sec
Print patterns : Described right
①Print ratio 12.5%
②Print ratio 25%
③Print ratio 0%



Demonstrated durability for printing distances exceeding 200 km.

***Kyocera research, July 2025**

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

<https://spgroup.box.com/s/rdbnimmzlkkmkhzy6oyutcvnpxvwccw0>

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](https://www.kyocera.com) 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).

Contact

KYOCERA Fineceramics Ltd.

Allan Martin

General Manager

Prospect House, Archipelago,

Lyon Way, Frimley, Surrey.

GU16 7ER United Kingdom

Tel: +44 1276 693450

E-mail: PR@kyocera.de

uk.kyocera.com