

November 16, 2021

## Ricoh Launches Industrial Inkjet Printhead [RICOH TH6310F](#) - Thin-film piezo printhead with high gap printing and ink recirculation system -

TOKYO, Japan – November 16th, 2021 – Ricoh Company, Ltd., (Tokyo, Japan) today announced the launch of a new industrial inkjet printhead the RICOH TH6310F that uses a thin film piezo actuator\*<sup>1</sup> and is a key component in digital printing systems. It will be globally available from November 23, 2021.

The new RICOH TH6310F will be launched as the flagship model amongst Ricoh's family of industrial inkjet printheads. Utilizing its high firing frequencies, it is the most productive inkjet printhead by Ricoh for both single or multi-pass applications. Using MEMS\*<sup>2</sup> technology enables high jetting accuracy, while its unique nozzle layout yields excellent print quality even at high gap printing\*<sup>3</sup> required in textile and other applications. At the same time, the ink recirculation structure significantly reduces the risk of jetting failure, ensuring high drop ejection stability.

Ricoh will continue to expand its lineup of inkjet printheads to support customers' printer development and meet the needs of the industrial print market. Ricoh contributes to resolving social issues by providing solutions for safe and secure clothing, food, and housing environments.

### Background

In the industrial print market for textiles, corrugated cardboards, labels and other products, there is an increasing demand to meet a variety of customer needs, including smaller run sizes and shorter delivery times. These needs are being addressed by the rapid digitalization of industrial print, contributing to overall greater flexibility, efficiency, and productivity. These shifting and expanding requirements call for increasing demand for inkjet printheads that offer higher productivity and high-resolution printing.

### Main features of the newly developed inkjet printhead

1. High-resolution printing and high gap printing by MEMS technology  
Ricoh's unique highly-integrated design using MEMS technology has achieved a 2.6-inch printing width with an array of 1,600 nozzles\*<sup>4</sup> by configuring two modules of 100 x 8 rows. It is also capable of using fine droplet ejection.  
Furthermore, the nozzle layout is designed to prevent airflow from ejected ink droplets from affecting adjacent droplets and resulting image quality, enabling high-quality printing even with a 4mm gap.\*<sup>5</sup>
2. High jetting stability due to unique ink recirculation mechanism  
The ink recirculation structure continuously circulates ink behind the nozzle. This structure significantly reduces the risk of nozzle drying, ink particle sedimentation, and other jetting failures, thus ensuring ejection reliability and printhead productivity. This provides increased reliability for single-pass\*<sup>6</sup> printing of 100m/min or more.

3. Highly versatile

Compatible with Aqueous-based, UV, and Solvent inks and can be used in a wide range of industrial applications, including textiles, corrugated cardboards, labels, binder jet, and signage graphics.

4. Simple design

Ink ports offer a simple one in one out<sup>\*7</sup> system that can be easily integrated into printing systems.

5. Excellent jetting ability

Jetting frequency up to 80 kHz in binary mode.

The new Dual Vcom<sup>\*8</sup> function achieves superior jetting frequency of up to 40 kHz in multi-drop mode.

\*1 A kind of piezoelectric transducer that creates mechanical deformation by applying a voltage used for jetting drops of ink.

\*2 Micro-Electro-Mechanical-Systems: a general term for miniaturized electro-mechanical devices or technology.

\*3 Printing that requires distance between the printhead and the media, such as printing on uneven surfaces

\*4 Staggered array of nozzle rows with 75 npi per row.

\*5 Depends on the combination of ink and print media used.

\*6 The printhead remains in a fixed position and completes image printing in a single pass while the print material is conveyed underneath.

\*7 To function ink circulation, one ink port (inlet for ink delivery) is located on the ink supply side and one on the ink discharge side.

\*8 Two types of drive waveforms can be selected for each nozzle to shorten the drive cycle.

Model name	RICOH TH6310F
Number of nozzles	1,600 staggered
Nozzle resolution	600npi (1 color)
Jetting frequency	80kHz (2 levels) 40kHz (4 levels)
Drop volume	5/10/18 pl (depending on ink)
Compatible ink	UV, Solvent, Aqueous
External printhead dimensions	Width: Approximately 104.6mm Depth: Approximately 44.9mm Height: Approximately 104mm
Start date of order	November 23, 2021



RICOH TH6310F

**Related Links**

[RICOH TH6310F](#)

[RICOH TH6310F Introduction Movie](#)

[Industrial Inkjet RICOH TH/MH/GH](#)

**For further information, please contact:**

RGC Component Business Center:

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Ricoh is [empowering digital workplaces](#) using innovative technologies and services that enable individuals to work smarter from anywhere.

With cultivated knowledge and organizational capabilities nurtured over its 85-years history, Ricoh is a leading provider of digital services and information management, and print and imaging solutions designed to support digital transformation and optimize business performance.

Headquartered in Tokyo, Ricoh Group has major operations throughout the world and its products and services now reach customers in approximately 200 countries and regions. In the financial year ended March 2021, Ricoh Group had worldwide sales of 1,682 billion yen (approx. 15.1 billion USD).

For further information, please visit [www.ricoh.com](http://www.ricoh.com)

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