

New Wide-format FXIJ Water-based Inkjet Printer for Flexible Packaging to Be Unveiled at TOKYO PACK 2018

THINK LABORATORY CO., LTD.

www.think-lab.com

As the manufacturer of the New FX Series of fully-automated gravure cylinder making equipment for the flexible packaging printing industry, THINK LABORATORY CO., LTD. will unveil a newly developed FXIJ roll-to-roll film inkjet printer model for the first time ever during TOKYO PACK 2018 (Booth No. 3-14, East Hall 3). At twice the width of the original FXIJ, this 1,100 (1,080 print width) wide-format water-based inkjet printer is designed to suit the needs of gravure printers in the flexible packaging printing industry, which has been struggling with the lower operational efficiency of gravure printing machines in the face of an increasing number of jobs below 2,000 meters in length and with short delivery



**The Four FXIJ type 504
Used for Testing Continue to Be Upgraded**



FXIJ type 1080

time frames. During the event, THINK LABORATORY will hold printing demonstrations, which are expected to attract greater interest than ever before. Moreover, they will also unveil samples printed with standard, high-solid, and water-based gravure inks using actual printing cylinders made on New FX series machines in operation at companies from around the world. As part of this display, they will also provide a wealth of related test data in support of realizing resource-conserving, environmentally-friendly gravure printing.

A 1,100 mm Wide-format Printer

Still under development at the time, THINK LABORATORY originally unveiled their FXIJ type 540 water-based pigment ink printer for flexible packaging

FXIJ Specifications

Type		Type 540	Type 1080
Substrate Width		600mm	1100mm
Print Width		540mm	1080mm
Inkjet Head Number		25	50
Resolution		600dpi	600dpi
Drying Method		Hot Air	
Ink Type		Water-based Pigment Inks	
Number of Colors		5-Color (CMYK + W)	
Print Speed	5C	20 - 40m/min	
	CMYK	40 - 60m/min	
Printer Size	W	2200mm	3500mm
	L	6000mm	6000mm
	H	2100mm	2100mm
Size With Additional Units*	W	3000mm	3000mm
	L	3000mm	6000mm
	H	2200mm	2200mm

*Ink tanks, hot air generator

during TOKYO PACK 2016. Now, two years later, they will unveil the FXIJ type 1080 as an upgraded model. Whereas the earlier model achieved a print width of 540 mm on 600 mm wide substrates, the type 1080 achieves a print width of 1,080 mm on 1,100 wide substrates. In this way, the wider machine targets the shift in gravure printing jobs to digital, and takes into consideration the efficiency of the following lamination processes. Specifically, by matching the size of the new printer to that of existing flexible packaging substrates and gravure printing widths, THINK LABORATORY expects that the greater print width will help lower the obstacles to installing the FXIJ among gravure converters and printing companies. Like the type 540, the new model also uses Kao Corporation's water-based pigment inks, and prints at a speed of 20–40 m/min. when used in the 5-color reverse printing mode (CMYK process colors plus white). When used in the CMYK 4-color mode, the machine can print at speeds of 40–60 m/min. In order to improve the drying efficiency of the water-based inks, the FXIJ is equipped with a compact, energy-saving hot-air



Newly Installed Dry Laminator

generator. This unit will also be unveiled during the event.

With double the substrate and printing width of the original model, at W3,500 × L6,000 × H2,100 the type 1080 printer itself is also twice as wide as that of the type 540. Even so, the machine is still more compact than other water-based inkjet printers under development by other printing equipment manufacturers that had been on display during IGAS 2018 this past July. Assuming the FXIJ type 1080 will also be exported, THINK LABORATORY designed the machine to fit nicely within a standard shipping container.

The first type 1080—the fifth FXIJ unit to be built thus far and the unit that will be unveiled at TOKYO PACK 2018—is currently being assembled at THINK LABORATORY's head office factory in Kashiwa, Chiba, Japan.

Constructing a Dedicated FXIJ Assembly Plant

THINK LABORATORY also recently began construction on a new assembly plant specifically designed to build the FXIJ on a site area of 4,500 m² located next to their head office factory. Scheduled for completion in April 2019, the first floor will be home to some 10 OKUMA machining units that will machine FXIJ parts 24 hours per day, and the second floor will serve as the assembly space. Once complete, the plant will have a production capacity of 10 units per month.

Installing Digital Post-printing Units

THINK LABORATORY has nearly completed installing the post-printing units that will be used together with the FXIJ, with a dry laminator, nonsolvent laminator, film slitter, hot-air tornado shrink tunnel, and rewinding inspection unit already in place. Towards the end of September, they will also install a shrink film butt-seamer and a cutting machine, which will allow them to laminate and rewind the printed films into rolls within a few hours on a single line. The new plant will be designed



Newly Installed Film Slitter

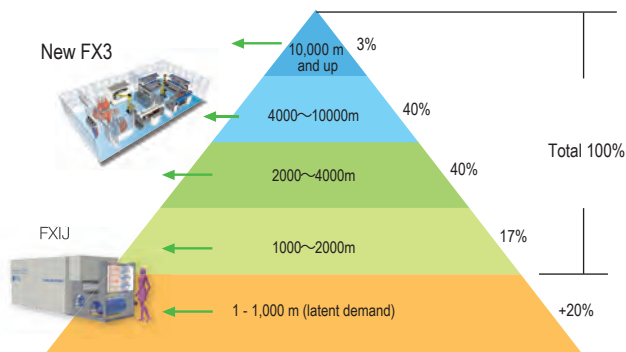
as a clean room, and will allow customers to actually view every step in the flexible packaging production process, from design data processing, to FXIJ printing, nonsolvent lamination, shrinking, and other post-printing processes. As such, the plant should serve as a highly valuable location for converters, printing companies, and other customers.

Uncovering Latent Demand for Short-runs

Based on an analysis of the flexible packaging converters and printers with which they do business, Tatsuo Shigeta, president of THINK LABORATORY, has drawn up an ideal operational concept whereby New FX3 based



New FX Under Assembly Just Before Delivery



New FX3/FXIJ Operational Concept

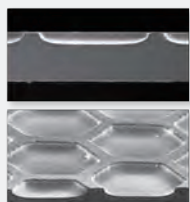
gravure cylinder making equipment and FXIJ printers are combined. In this concept, medium to long runs of 2,000 meters or more are printed using cylinders made on the New FX3 in order to increase cylinder making efficiency. At the same time, the shallower cells on these cylinders will also help reduce the amount of gravure ink used during printing. Meanwhile, FXIJ inkjet printers are utilized to print short runs of under 2,000 meters and to uncover latent demand for these kinds of short-run jobs, thereby expanding the flexible packaging market.



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New FX 3



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improve on highlights

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