



## J Press 720S

### PRODUCT BROCHURE

Fujifilm's powerful second generation B2 sheet-fed digital inkjet press



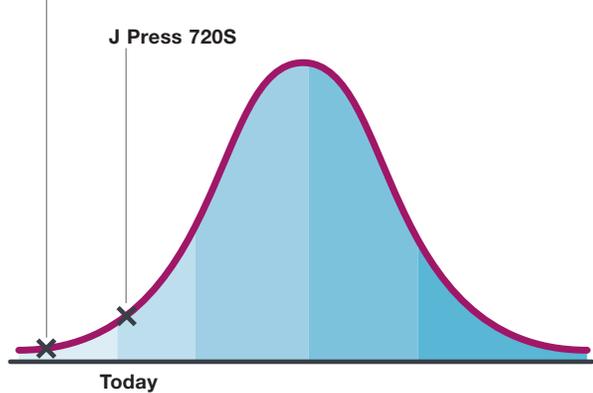
# Inkjet: The power to transform commercial printing

**Digital printing in the commercial print market has come a long way in the last twenty years, with toner-based technologies having had success in delivering quality, on demand print. Despite this success, however, the majority of commercial printing is still produced using traditional offset presses.**

Over the last six to seven years, inkjet deposition technology has evolved to such an extent that single pass printheads are able to deposit ink at the higher speeds and quality levels required by the most discerning consumers of commercial work have now become a commercial reality. It is these printheads, combined with sophisticated control systems, ink and paper handling technologies, that are now set to ignite a revolution in commercial print.

Digital printing in the commercial print market has come a long way in the last twenty years, with toner-based technologies having had the most success in delivering high quality, on demand print. Despite this success, however, the majority of commercial print is still produced using traditional offset presses.

*The emergence of single pass inkjet technologies*

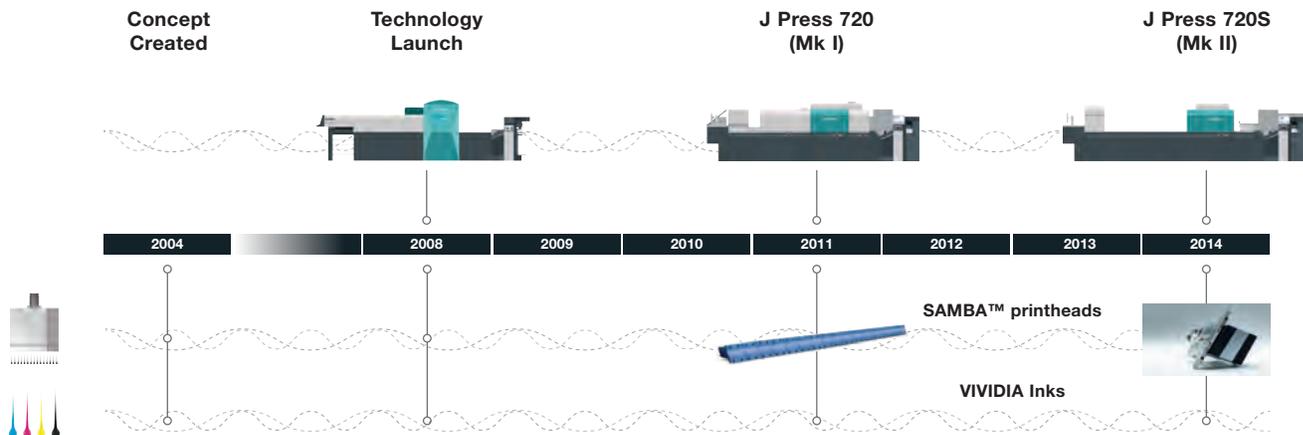


*Inkjet is at the early stages in terms of its impact on commercial print, but the potential to revolutionize the industry is huge.*

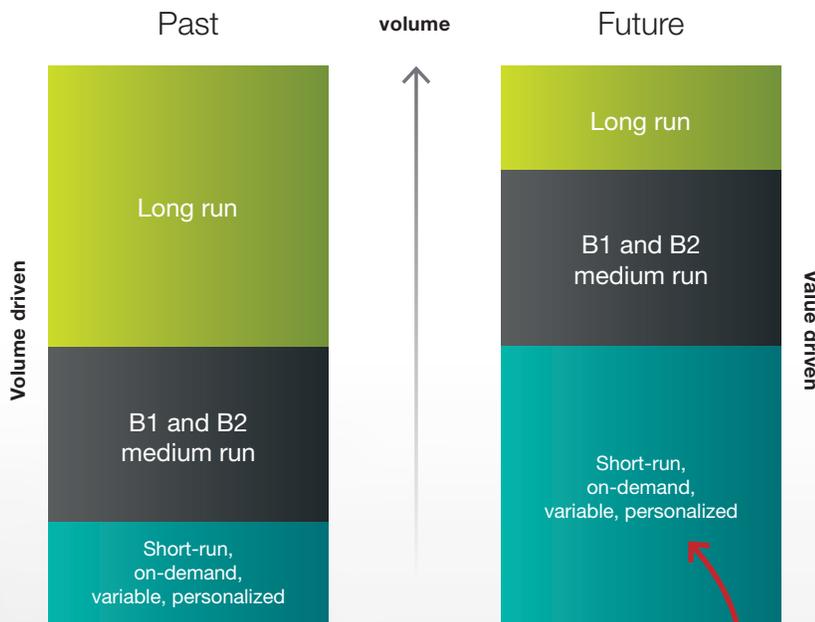
## J Press development

Fujifilm has been at the forefront of these technology developments since 2004, with the company launching its first B2 inkjet digital press, the J Press 720, as a 'technology announcement' at Drupa 2008. This press became commercially available in 2011, with the last three years seeing installations all over the world. Now Fujifilm is launching its second generation press, the J Press 720S, with many improvements over the earlier model.

The technology at the heart of these presses is SAMBA™, which is without doubt the industry's most advanced single pass printhead technology. The development path of SAMBA™ has mirrored that of the press itself, with many improvements being introduced over the last eight years, the latest being the ability to replace individual SAMBA™ modules within a print bar.



# Ready to transform your business

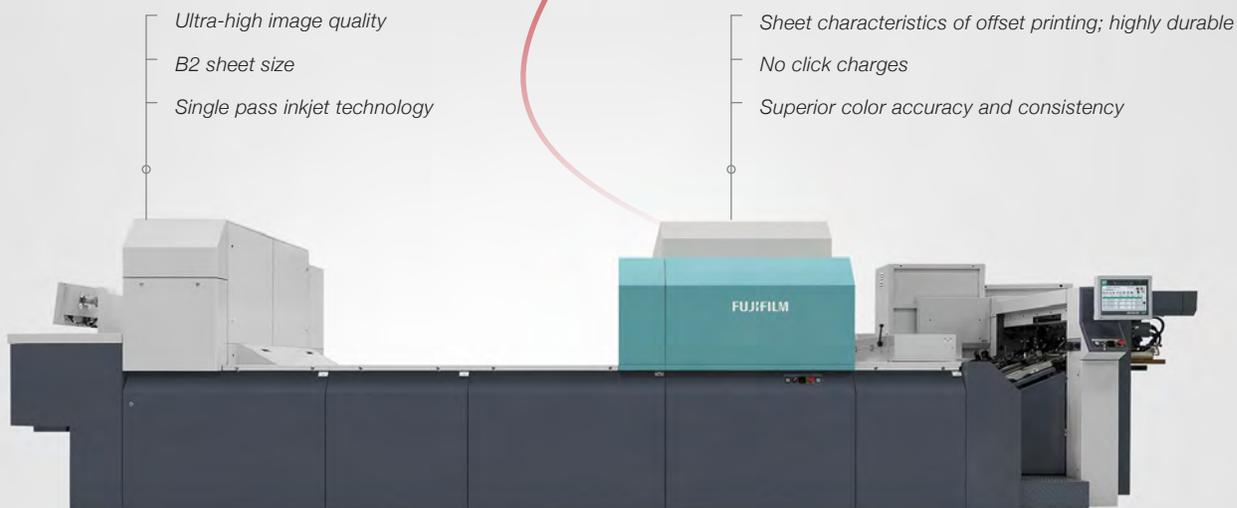


The nature of print is changing, with the classic long run vs short run print model set to be turned on its head.

The world of commercial print is changing fast, pressure to become more and more profitable and meet the market demand for competitive pricing. Print buyers, need the benefits inkjet printing brings now more than ever. Short run, customized and targeted print runs and print-on-demand are all standard operation in today's fast moving world. There is a resurgence of interest in high quality, very short run relevant content.

We are set to continue at an even faster pace in the future. This is where forward-thinking printers can prepare for the future and position their businesses to be at the forefront of these developments. B2 inkjet is the perfect technology to address these changing market conditions. The J Press 720S is without a doubt the front runner.

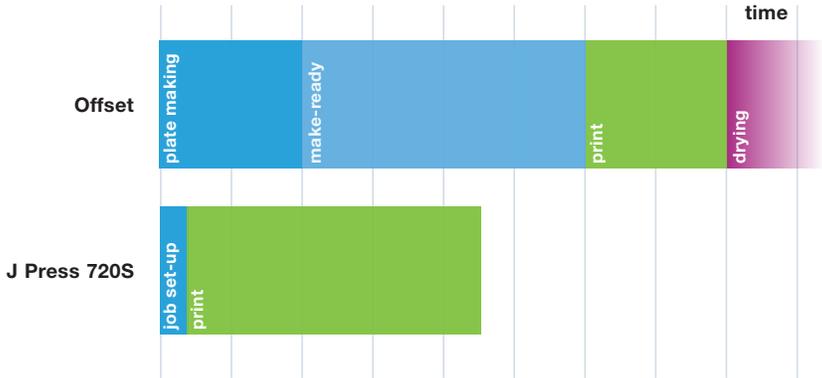
Sheets from the 720S hold up to post press operations with the durability and ink adhesions equal to offset printing; foil stamping, coating, die cutting and embossing.



# The efficient way to produce high quality commercial

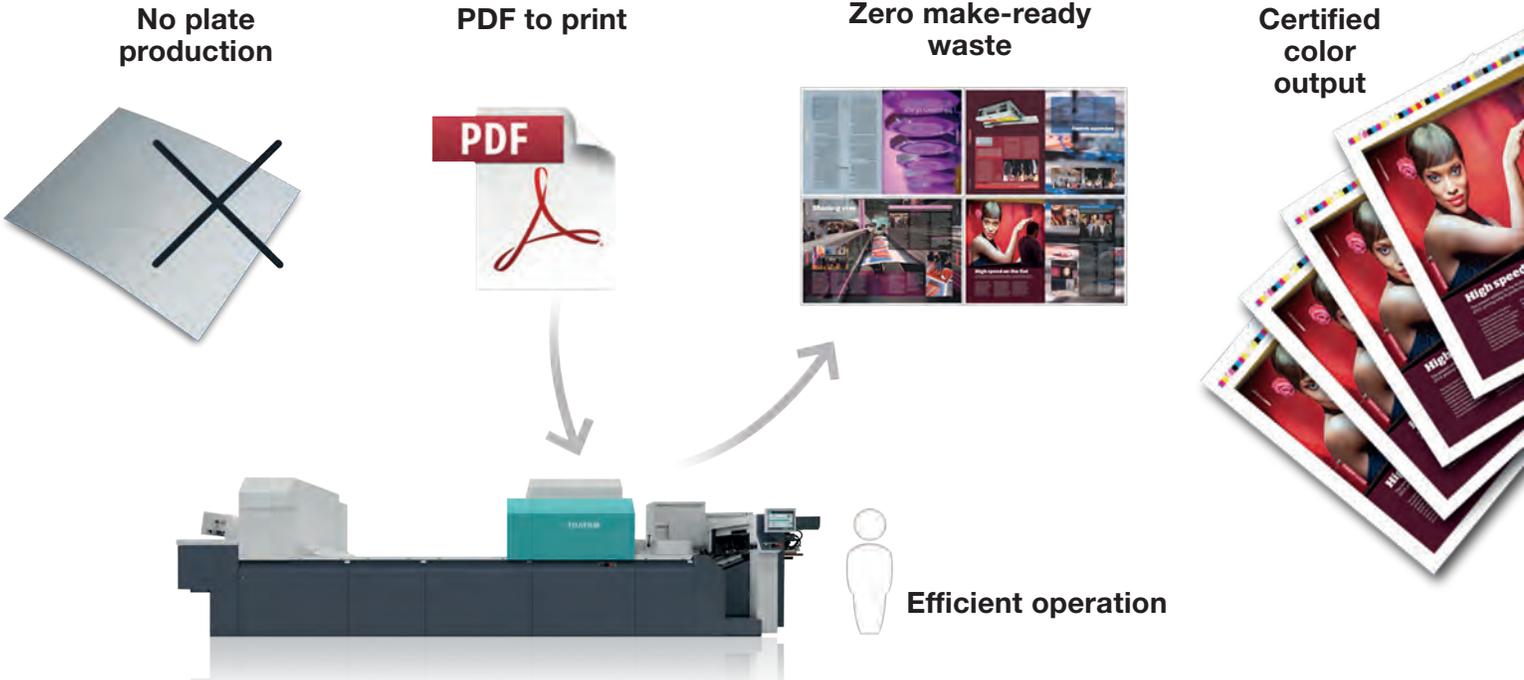
The most efficient way to produce short run printing is to send the PDF directly to the press and print. This is how the J Press 720S operates. The ground breaking technology in the B2 format J Press eliminates all the timely and costly preparation and set up parameters of an offset press. There are no plates to produce, no platesetters or processors to maintain, no make-ready, no run up to color, no waste sheets, and virtually no pressroom consumables.

The printed sheets can often be handled immediately, and print quality and consistency is guaranteed. No on-press tweaks are necessary. If you are looking to be ultra-competitive on short run print jobs, the J Press 720S is about as efficient as you can get. Just send the PDF and print.



*With the J Press 720S, the production time for short run jobs is much lower.*

## From print ready file directly to print production



## A wide range of application possibilities



### Book components: Book covers

The J Press 720S is perfect for single sided book jackets, with the consistent high quality and wide color gamut helping books stand out from the crowd.



### High quality, short run books

The quality, format size and ability to print on standard offset paper make the J Press 720S ideal for any high quality of short run book product.



### Photography portfolios

High quality photography portfolios and photobooks are perfect for the J Press 720S, with the wider color gamut able to deliver breathtaking images.



### Brochures

Short run brochures are perfect for the J Press 720S, with the ability to personalize and print multiple language versions quickly and easily adding extra value.



### Posters

High quality art posters are ideal for the J Press 720S, with the wide paper choice (coated and uncoated) and superb quality delivering perfect results time after time.



### Variable data direct mail

The J Press 720S features a new barcode system and high powered data servers to print every page on the fly, guaranteeing front and back page matching every time.



### Calendars

With the ability to print on a wide variety of paper, high quality calendars up to B2 in size can be created quickly and easily, with personalization or customization.



The B2 format size of the J Press 720S means it is possible to print a wider range of applications digitally, but this is not the only reason why the press can take on a wide variety of jobs. The J Press 720S can print on most standard offset stocks, thanks to its integrated Rapid Coagulation Primer system. This system coats the sheet with an ultra-thin, invisible film providing a consistent environment for the coagulation of ink droplets, guaranteeing the highest print quality. The ability to print on a wide range of paper stocks means many new applications can be printed digitally that were previously impossible.

In addition, the finishing possibilities are limitless, with the water-based inkjet ink performing better than a traditional offset ink in its ability to be folded, laminated, spot coated and finished in a multitude of ways. So if you produce custom, high quality print with a wide variety of finishing techniques applied to the sheets, this press is ideal.

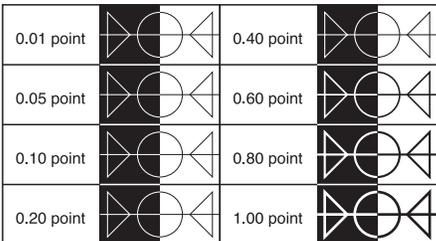
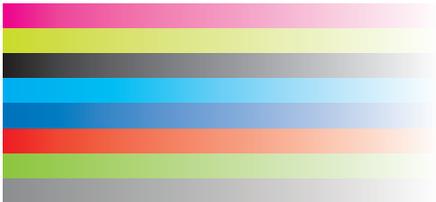
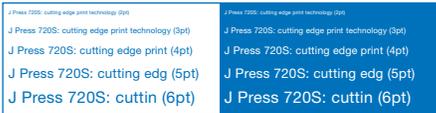
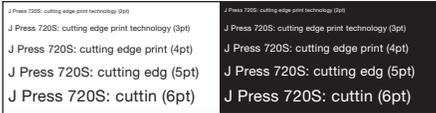
# Outstanding image quality and consistency

**Successful, cutting edge print technologies and businesses inspire new creative application opportunities. With the J Press 720S, Fujifilm's objective was to design a press that was inspirational for printers and print buyers alike. Our vision was to develop a four color, B2 format digital press raising the bar in terms of print quality and sheet characteristics to challenge current offset standards.**

If we had taken the easy route, dedicated paper designed for inkjet printing was an option. But we wanted to design a press that could achieve stunning print quality on a multitude of different types of paper, and therefore take advantage of print and paper's inspirational and tactile qualities.

The J Press 720S takes the print quality produced by a digital printing system to new heights thanks to a combination of fundamental Fujifilm technologies. The end result is stunning, vibrant colors, superb skin tones, extraordinary fine text and line detail, and incredible flat tints, all produced on standard offset paper.

However, the perception of print quality is not only limited to the technical specifications. There is a tactile, emotional and physical element to a piece of high quality print that sets it apart. For the first time, the J Press 720S allows these intangible qualities to be reproduced digitally, setting it apart from the rest. Truly the dawn of a new era for digital print and commercial printing operations.







**It starts in the workflow**

Quality starts in the workflow, with XMF providing an intelligent job queue controlling the imposition, workflow automation, and all aspects of color management automatically. Most of the time there will be no need to adjust color settings, with 100% color registration possible on the first printed sheet. Manual adjustments can be made when necessary. The J Press 720S also takes advantage of unique Fujifilm FM screening algorithms to produce ultra-smooth tints and high quality output.



**Industry leading printheads - SAMBA™**

The state-of-the-art SAMBA™ print bars in the J Press 720S are fabricated using precision MEMS<sup>1</sup> technology and can achieve 1,200 x 1,200 dpi native resolutions. However, thanks to the fact that the ink droplets can be reproduced in four levels of greyscale, the actual quality resolution is much higher.

The J Press 720S features a new generation of printhead technology, with each B2 width print bar built up of 17 individually replaceable modular printheads, each with 2,048 nozzles. This equates to 34,816 nozzles per bar, with each nozzle activated at a discharge frequency of up 100 kHz, depositing droplet sizes down to 2pl. The SAMBA™ print bar also takes advantage of unique VersaDrop™ technology, allowing the size and shape of each ink drop to be precisely controlled and placed on the paper, resulting in unbelievably fine lines and text.

<sup>1</sup> Micro Electro Mechanical System

color managed  
workflow and screening  
technologies

1200 x 1200 dpi  
four level greyscale  
inkjet heads

The new  
in print

registration accuracy  
better than offset



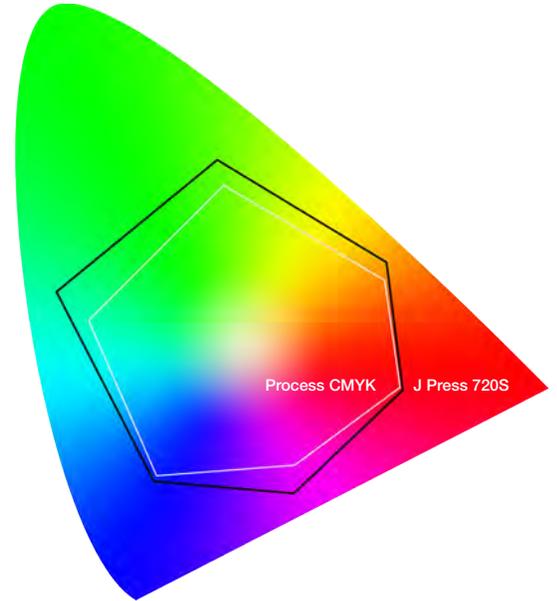
**Registration & reliability**

Quality is nothing without consistency. Because the J Press 720S makes use of an offset paper feed mechanism for dependability. Registration accuracy is superb. This removes one of the limitations of current digital printing systems, where the tolerance from sheet-to-sheet sometimes limits the jobs that can be run. With the J Press 720S, the registration and repeatability from sheet-to-sheet are second to none.

## High performance, water-based inkjet ink

The performance of the ink through the printhead onto the printed sheet is critical to delivering benchmark quality. Fujifilm scientists made use of the company's advanced fine chemical technologies to develop a new water-based inks.

The result is VIVIDIA - a new range of high performance CMYK ink colors that have each been painstakingly developed to match the SAMBA™ printheads and achieve the best performance on the widest range of standard offset papers. Ink grains as small as 0.5 trillionths of a liter, invisible to the naked eye, are discharged at high speed to deliver breathtaking print quality. In the J Press 720S, these inks have been refined even further, optimizing the combined performance criteria of quality, drying and ink rub-off from sheet to sheet.



larger color gamut  
water-based inks

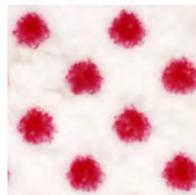
standard  
quality

bleed-free ink  
coagulation technology

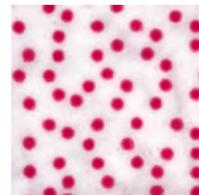
real-time closed-loop  
color control

## Rapid Coagulation Primer (RCP)

To counter the natural tendency of an ink droplet to spread when it hits the paper and ensure uniform ink formation whatever the paper type, the J Press 720S applies a Rapid Coagulation Primer (RCP) prior to ink deposition via an anilox roller. The RCP features unique "anti-curling" and "rapid coagulation ink" technologies which prevent paper curl and dot gain and are a critical component in the formation of a high quality image.



Offset AM 175 lpi

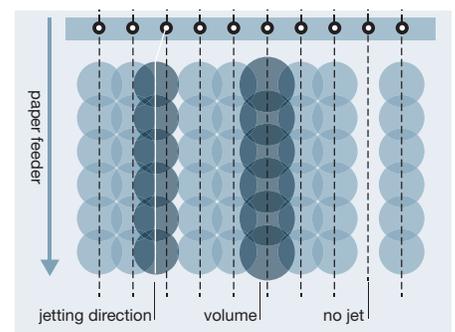


J Press 720S

Halftone dot comparison  
(magenta 20%)

## Automatic Nozzle Control

Finally, quality is further enhanced through the use of a CCD sensor which scans every sheet and makes any necessary alterations to the way the ink is discharged from the printhead in real time. The proprietary In-Line Sensor (ILS) system detects any nozzle and ink deposition inconsistencies, modifying the printhead nozzle map and ink deposition parameters in real time to correct deviations from the norm. In the J Press 720S, this system is now mounted immediately after the print bars, enabling the ILS to make any necessary adjustments sheet by sheet.



J PRESS 720S

B2 SHEET-FED INKJET PRESS



### The powerful heart of J Press 720S

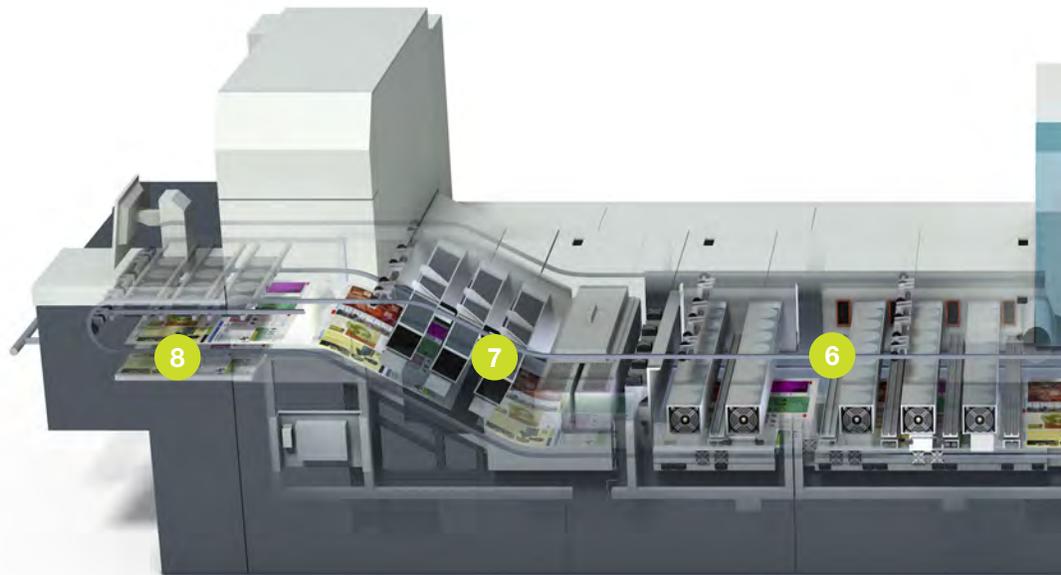
SAMBA™ modular printheads are the powerful heart of the J Press 720S. The result of many years of painstaking R&D development and manufacturing expertise, these high performance printheads are now the benchmark by which all others in the industry are judged. In the J Press 720S, the design has been further improved, with individual modules replaceable in the field.



# Our second generation press engineered to produce high quality printing. Sheet to sheet, job to job, day to day.

The J Press 720S has been built to produce high quality print all day, every day. The benefits of an offset paper handling system are obvious, and take advantage of technology that has evolved over many years to be ultra-reliable. But there are also many improvements in the J Press 720S detailed on

this page that improve quality even further, improve variable data handling, speed up job downloads, reduce the necessity for system downtime and minimize breaks in production due to press maintenance.



## Sheet stacking

The final printed sheet emerges in the delivery area in the same way as a traditional offset press.



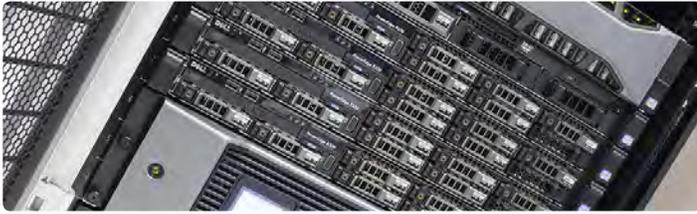
## Paper cooling

Before the sheets leave the press, they pass under another bank of fans designed to optimize the sheet temperature and ink drying performance.



## Infra-red paper drying

The J Press 720S features a new ink drying system, comprising infra-red lamps and Hot Air Knife (HAK) arranged across the B2 sheet width.



### Ultra-high capacity data servers

Advanced high capacity data servers enable the press to download all the data needed to print a B2 sheet on the fly, making variable data and versioned print jobs possible on a single sided press.



### Paper feed

Traditional sheet-fed paper feed mechanism ensures high registration accuracy and reliable operation.



### Variable data scanning

To handle double sided variable data applications, a barcode is printed in the non-image area of every sheet. When the sheet is backed up, the barcode is read and the press downloads the right data for that sheet in the 1.3 seconds before printing.



### Sheet scanning

Every sheet is scanned by the In-Line Sensor (ILS) with the system making any necessary alterations in real time. In the J Press 720S, this system is mounted just after printing to ensure any adjustments are applied to the next printed sheet.



### SAMBA™ inkjet heads

The paper is fed onto the imaging cylinder where it is held by grippers and a vacuum, and four SAMBA™ print bars deposit the CMYK inks in a single pass. In the J Press 720S, the vacuum system has been further improved to enhance print consistency.



### Paper priming

The primer unit applies an ultra-thin film Rapid Coagulation Primer onto the paper via an anilox roller mechanism. The reaction of the primer and the water-based ink produces incredibly sharp dots and vibrant images on standard B2 coated paper.

## Double-sided variable data handling: Scan, read & pull

**The ability to handle variable data is a fundamental advantage of a digital press, and the J Press 720S is no different.**

This is because it takes advantage of a system that prints a barcode in the non-image area of every sheet immediately after the paper leaves the input sheet stacker. Once the first side has been printed, the sheets are turned over and loaded into the sheet stacker once again. The press reads the barcode on every sheet as it leaves the stacker and downloads the correct page information before it prints the second side (in 1.3 seconds to be exact), guaranteeing front and back page matching.

Thanks to the introduction of newly developed, ultra-high capacity servers and data transfer system, the J Press 720S is able to print the second side at the full rated press speed of 2700 B2 sheets per hour.



## A powerful press requires a powerful workflow

Fujifilm's XMF cross media workflow is ideally placed to drive the J Press 720S due to its unprecedented productivity and native PDF print handling capabilities. In addition, XMF provides an intelligent job queue controlling all aspects of color management for the press automatically.

Most of the time there will be no need to adjust color settings, with 100% color registration possible on the first printed sheet, but manual adjustments can be made where necessary.





## A press that can be integrated into any existing printing businesses

**The J Press 720S has been designed to make digital print production much more flexible.**

Firstly, as the machine is B2 format, it fits into existing sheet-fed pressrooms without the need for any alterations in terms of paper handling and finishing.

Secondly, most standard B2 offset paper can be used (uncoated and coated), removing the requirement to use specialized and expensive digital paper. This means, for example, that a B2 printer can take advantage of current B2 paper stocks, simplifying inventory and stockholding and reducing costs.

### Finishing equipment

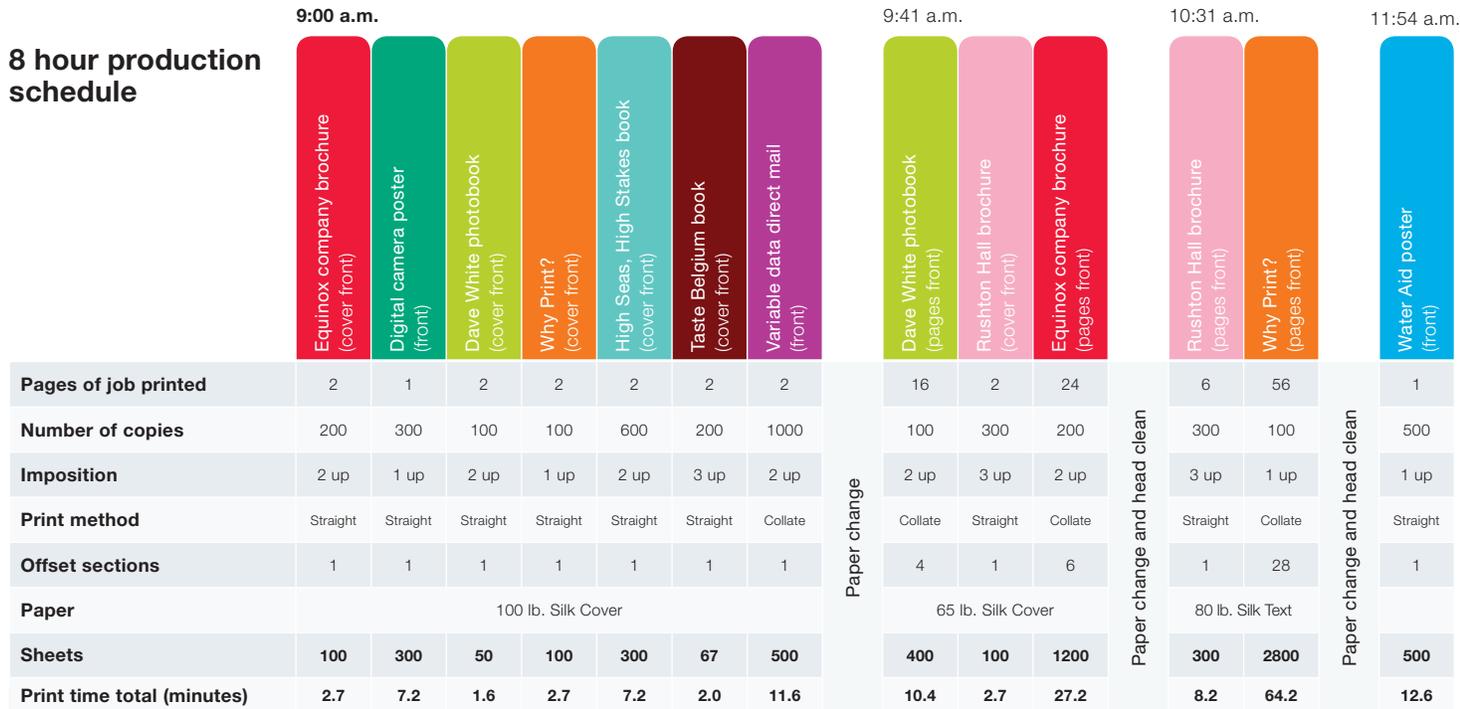
Finally, the range of finishing options available is much wider than with many other digital print technologies. Once printed, the B2 sheet can be treated like an offset sheet, dropping into existing finishing equipment with many special finishes possible. As a result, digital print can be treated like offset print more than ever before.



# A day in the life of the J Press 720S

The J Press 720S is designed to print day in, day out as a workhorse production press. To demonstrate this, we've pulled together an 8 hour production schedule for the press, highlighting the key production statistics along the way. This is not a theoretical schedule – it is based on real print jobs printed on typical offset paper, with press maintenance

factored in. Of course, not all printing operations are the same and your actual results may vary or improve. A key factor in the realization of this schedule are the job orientation and job definition using a digital workflow, which would be impossible on an offset press given variable data applications, electronic collation, and batch printing.



## The print jobs

### Equinox company brochure

52 page, perfect bound company portfolio brochure that would have meant 56 plates, 14 press make-readies and potentially 1400 waste sheets if printed offset.

### Digital camera poster

Double sided B2 retail poster showcasing ultra-fine text and detail, trimmed to size.

### Dave White photobook

36 page, perfect bound photography portfolio / photobook showcasing ultra-wide color gamut for hexachrome-type images and ultra-high quality.

### Why Print? coffee table book

116 page, larger format, perfect bound coffee table book that would have meant over 200 plates, 58 press make-readies and potentially over 5000 wasted sheets if printed offset.

### High Seas book cover

Oversized A5, double sided book cover highlighting the capability of the press for high quality book covers.

### J Press 720S summary



**9,567**  
B2 sheets



**18,117**  
printed sides



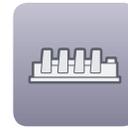
**28**  
job changes



**430**  
minutes  
print time



**488**  
plates



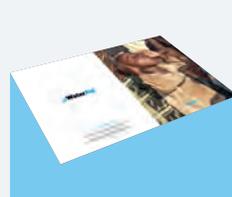
**122**  
press make-  
readies



**12,200**  
wasted  
sheets\*

### Offset equivalent

2:01 p.m.			2:22 p.m.						3:05 p.m.		3:47 p.m.		5:00 p.m.
Taste Belgium book (pages front)	Water Aid poster (back)	Taste Belgium book (pages back)	Equinox company brochure (cover back)	Digital camera poster (back)	Dave White photobook (cover back)	Why Print? (cover back)	High Seas, High Stakes book (cover back)	Variable data direct mail (back)	Dave White photobook (pages back)	Equinox company brochure (pages back)	Rushton Hall brochure (pages back)	Why Print? (pages back)	
60	1	60	2	1	2	2	2	2	16	24	6	56	
200	500	200	200	300	100	100	600	1000	100	200	300	100	
3 up	1 up	3 up	2 up	1 up	2 up	1 up	2 up	2 up	2 up	2 up	3 up	1 up	
Collate	Straight	Collate	Straight	Straight	Straight	Straight	Straight	Collate	Collate	Collate	Straight	Collate	
10	1	10	1	1	1	1	1	1	4	6	1	28	
100 lb. Uncoated Text			100 lb. Silk Cover						65 lb. Silk Cover		80 lb. Silk Text		
<b>2000</b>	<b>500</b>	<b>2000</b>	<b>100</b>	<b>300</b>	<b>50</b>	<b>100</b>	<b>300</b>	<b>500</b>	<b>400</b>	<b>1200</b>	<b>300</b>	<b>2800</b>	
<b>46.4</b>	<b>11.6</b>	<b>46.4</b>	<b>3.7</b>	<b>7.2</b>	<b>1.6</b>	<b>2.7</b>	<b>7.2</b>	<b>11.6</b>	<b>10.4</b>	<b>27.2</b>	<b>8.2</b>	<b>64.2</b>	
Paper change and head clean			Back up all jobs						Paper change and head clean		Paper change and head clean		



**Taste Belgium coffee table book**  
124 page coffee table book highlighting the quality achievable on uncoated paper, which would have meant 84 plates, 21 press make-readies, and potentially over 2000 wasted sheets if printed offset.

**Variable data direct mail**  
Simple A4 landscape, 4 page direct mail with variable text and images, easily achievable on the J Press 720S, with a print time of under 24 minutes for 1000 copies.

**Rushton Hall brochure**  
High quality 16 page, A5 landscape brochure perfect for showcasing superb image quality, with 3 up on a B2 sheet resulting in ultra-efficient digital production.

**Water Aid poster**  
A B2 double sided poster trimmed and folded into an A4 information sheet, printed on uncoated paper.

**Water Aid A4 card**  
Simple A4 single sided card, trimmed and folded to A5, highlighting the ability of the press to print short run greetings cards, personalized if necessary.

**Sailing calendar**  
7 page calendar, 2 months to a page, featuring high quality images and ultra-fast production, with personalization easy to achieve if required.

## Exceptional environmental performance

**There are a number of significant environmental benefits with the J Press 720S. These include a reduction in raw materials, hazardous pressroom consumables and paper waste, along with the complete elimination of the plate production process. All these benefits mean that the J Press 720S has a lower carbon footprint than an equivalent conventional printing press.**

### **Reduction in raw materials and paper waste**

The advantage of digital printing optimizes the number of printed copies produced and minimizes the over-runs; a key benefit of the J Press 720S. In addition, the number of make-readies is also considerably reduced. On some short-run jobs on older traditional sheet-fed presses, the number of make-ready sheets can represent a significant percentage of the total run, up to 25% in some cases. This problem is eliminated with the J Press 720S as the make-ready time is virtually zero.

### **Elimination of plate production, water and alcohol**

As the J Press 720S is a digital press, it eliminates all the elements involved in the production of plates. This includes the plates, platesetters, processors and associated chemistry, water and waste. Each of these parts of a plate production system have significant carbon footprints in terms of their design, manufacture, transport, use and eventual disposal.

### **Reduction of hazardous pressroom consumables**

The J Press 720S also removes the need for a number of the pressroom consumables used on a typical offset press, for example founts, sprays and potentially harmful VOC washes, and of course significantly reduces the requirement for water. The J Press 720S requires only two consumables in addition to the water-based ink: a wash for the inkjet printheads and the Rapid Coagulation Primer solution applied to the paper prior to printing.

### **Lower carbon footprint than a typical offset press**

Fujifilm carries out a life cycle carbon footprint analysis for all the products it manufactures, a process which takes into account product design, manufacturing, transport, use and eventual disposal. As a result, the company estimates that the carbon footprint of the J Press 720S compared to an equivalent B2 sheet-fed press (internal estimate) is approximately 25% less.

### **Sheets can be easily recycled**

The results of trials carried out by the International Association of the Deinking Industry (INGEDE) on sheets printed by the J Press 720S indicate levels of deinking on a par with offset inks, with 98 out of a possible 100 points, results which represent a milestone in the ability to remove the ink from an inkjet sheet.



# Technical specifications

## J Press 720S

PRINTING	
Printing-head	FUJIFILM Dimatix SAMBA™ print bars (x4)
Colors	4 color, CMYK printing
Resolution	1200 x 1200 dpi, 4 level grayscale
Productivity	Up to 2700 B2 sheets per hour (static and variable jobs)
Workflow	XMF v5.5 or later or a third party workflow with XMF Processor
Variable data capability	Yes, thanks to a barcode (read and pull) system and ultra high capacity data transfer system
SUBSTRATE	
Sheet size	15" x 21.3" to 20.9" x 29.5" (545 mm x 394 mm to 750 mm x 532 mm)
Printable Image Size	20.24" x 28.86" (514 mm x 733.02 mm)
Weight/Thickness	Single Sided: 60 lb. text to 110 lb. cover/3 pt. to 14 pt. (.07 mm to .34 mm) Double Sided: 80 lb. text to 110 lb. cover/3 pt. - 14 pt. (.09 mm to .34 mm)
Type	Coated paper (matte, silk or gloss) and specified uncoated
INKS, PRIMER AND WASH	
Inks, Primer, Wash	VIVIDIA CMYK inks Rapid Coagulation Primer (RCP) Nozzle cleaning wash
Ink light fastness	The inks have been tested for light fastness to the blue wool scale, achieving a very good blue wool step 6 rating with respect to ISO 12040
Shelf life	2 years under recommended warehouse conditions
Packaging	Inks, RCP and Wash in 10 liter packs
PHYSICAL	
Dimensions	26' 4" (w) x 8' 8" (d) x 6' 9" (h)* * The height when cover is open is 7' 6"
Space requirements	40' (L) x 16'6" (W) x 10' (H) (12m (L) x 6m (W) x 3m (H)) including transformer and workflow RIP
Required weight bearing load	More than 3.13 lb/sq. in. (2.4 tons/sqm)
Power requirements	<b>Main Press Unit:</b> 3-phase 200 VAC, 310 Amp, 60 Hz <b>Ancillary Components:</b> Single-phase, 200 - 230 VAC, 100 Amp, 60 Hz



This brochure was printed on the J Press 720S  
Cover coated with Coating & Adhesives Corp.  
1831C Waterbased Softfeel Coating.

[www.fujifilmgraphics.com](http://www.fujifilmgraphics.com)

**FUJIFILM**