



## Jet Press 720S

### PRODUCT BROCHURE

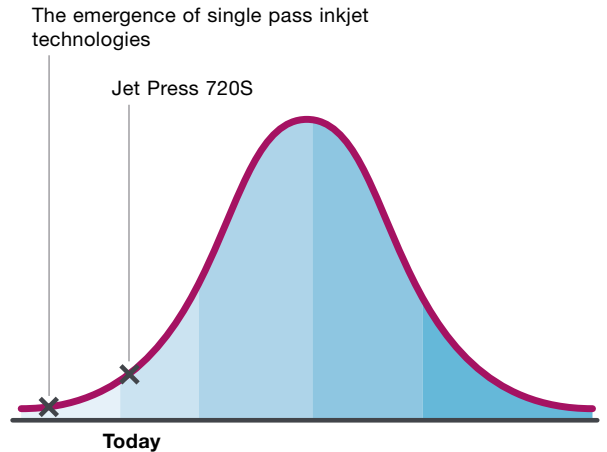
Powerful second generation B2 sheet-fed digital inkjet press



# Inkjet: The power to transform 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.

Over the last six to seven years, inkjet deposition technology has evolved to such an extent that single pass printheads able to deposit ink at the speeds and quality levels required by the discerning consumers of commercial print 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 the way that commercial print is produced.

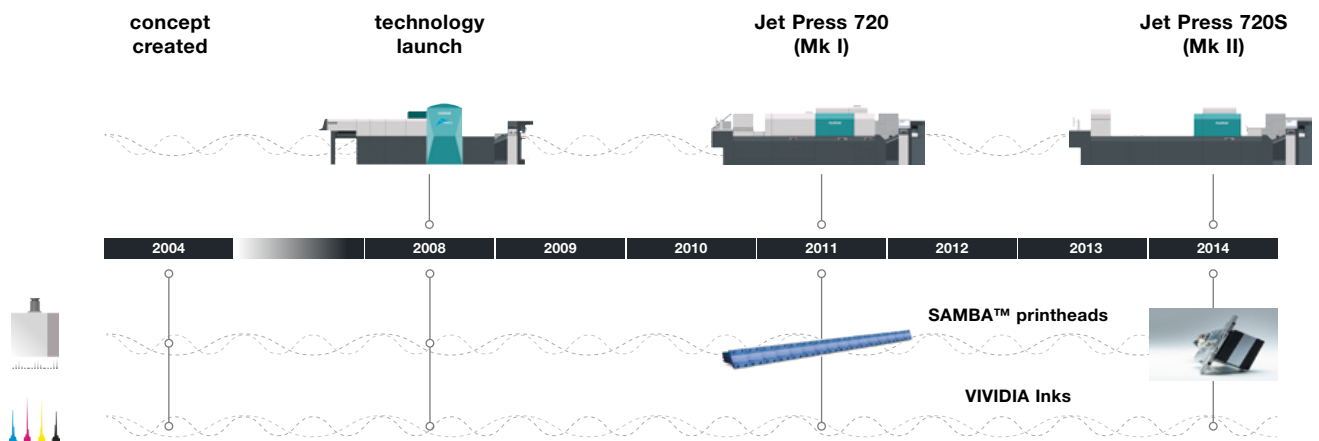


*Inkjet is at the early stages in terms of its impact on commercial print, but the potential to revolutionise the industry is huge.*

## Jet Press development

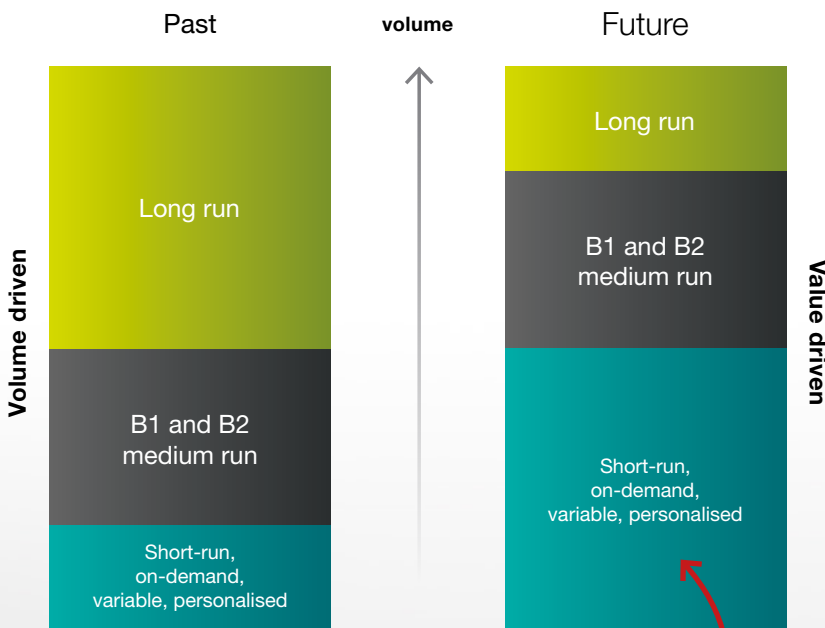
Fujifilm has been at the forefront of these technology developments since 2004, with the company launching its first B2 inkjet digital press, the Jet Press 720, as a 'technology announcement' at Drupa 2008. This press became commercially available in 2011, with the last three years seeing installations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

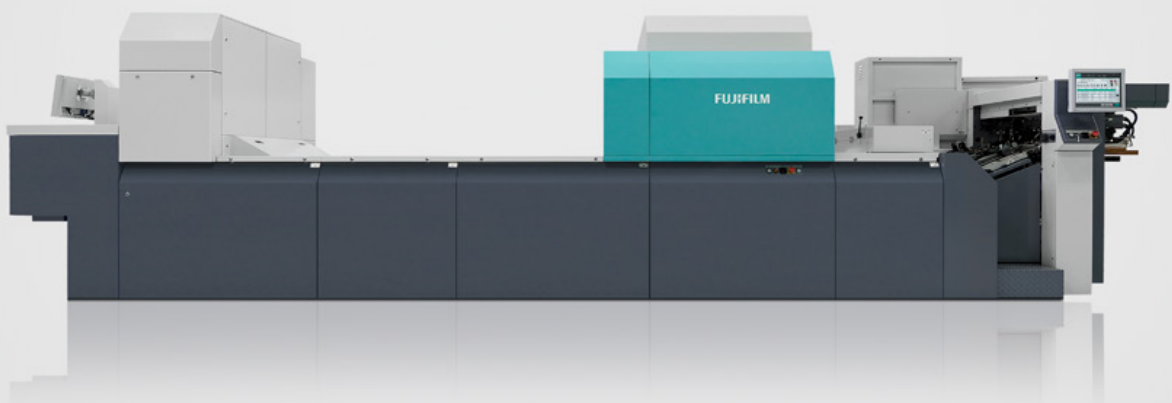


*The nature of print is changing, with the classic long run vs short run print model set to be turned on its head.*

The world of commercial print is changing fast. Long run jobs are becoming more and more unprofitable as overcapacity in the market drives down prices. Print buyers, on the other hand, need the benefits that digital printing can bring now more than ever. Short runs, fast turnarounds and print-on-demand are all standard requirements in today's fast moving world. And with 'retro' and 'vintage' being increasingly en vogue, there is a resurgence of interest in high quality, very short run print, particularly where the physical, emotional and tangible benefits of print can win over online information delivery.

These trends are set to continue at an even faster pace in the future, with the classic long run vs short run print model set to be turned on its head. 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, and the Jet Press 720S is without doubt the front runner.

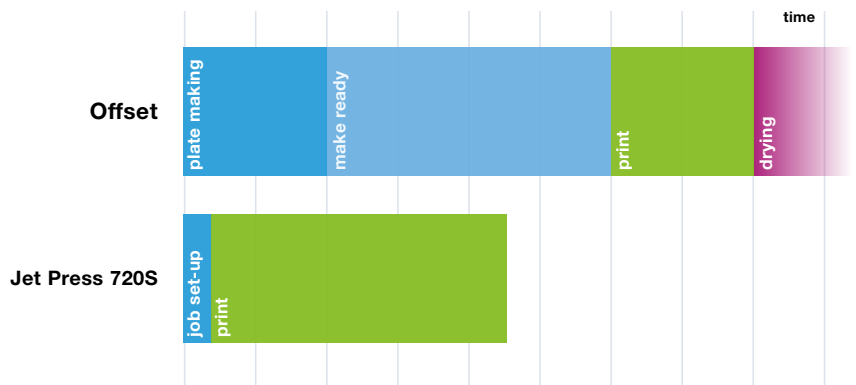
- Ultra-high image quality
- B2 sheet size
- Single pass inkjet technology



# The efficient way to produce short run print

The most efficient way to produce short run print is to send the PDF to the press and print. This is how the Jet Press 720S operates, as this groundbreaking B2 inkjet 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 readies, no run up to colour, no waste sheets, and virtually no pressroom consumables.

The printed sheets can often be handled immediately (although drying time ultimately varies according to paper type), and print quality and consistency is guaranteed, with no on-press tweaks necessary. So if you are looking to be ultra-competitive on short run print jobs, the Jet Press 720S is about as efficient as you can get. Just send the PDF and print.



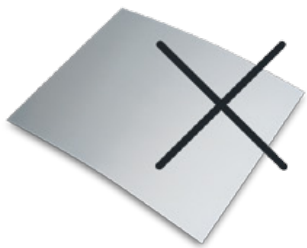
*With the Jet Press 720S, the production time for short run jobs is much lower.*

No plate production

PDF to print

Zero make readies  
Zero waste

Guaranteed colour



Fewer operators



## A wide range of application possibilities



### Coffee table books

The quality, format size and ability to print on standard offset paper make the Jet Press 720S ideal for the production of short run coffee table books.



### Photography portfolios

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



### Brochures

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



### Posters

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



### Variable data direct mail

The Jet 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.



### Book covers

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



### 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 personalisation an added bonus.



The B2 format size of the Jet 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 Jet 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 bespoke, high quality print with a wide variety of finishing techniques applied to the sheets, this press is ideal.

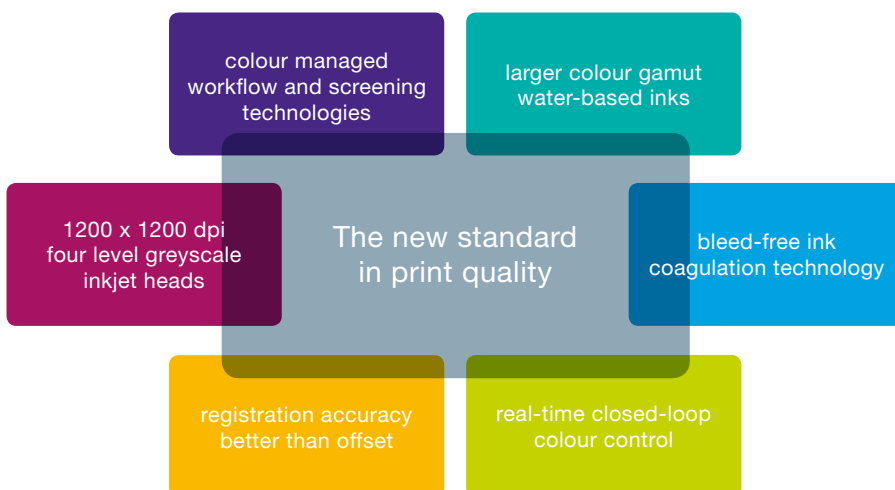
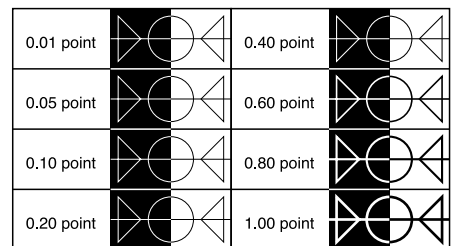
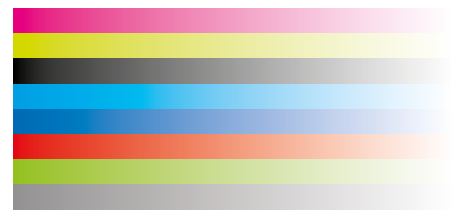
# Outstanding image quality and consistency

To be successful, cutting edge print technologies must inspire new creative application opportunities. With the Jet 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 colour, B2 format digital press that raised the bar in terms of print quality and challenged the current offset standard.

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 Jet 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 colours, 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 Jet 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.







### 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 colour management automatically. Most of the time there will be no need to adjust colour settings, with 100% colour registration possible on the first printed sheet, but manual adjustments can be made when necessary. The Jet Press 720S also takes advantage of unique Fujifilm FM screening algorithms which eliminate moiré and produce ultra-smooth tints.



Comparison of screening technologies at 2x magnification

Print with standard AM screening

Jet Press 720S print with FM screening



### Industry leading printheads - SAMBA™

The state-of-the-art SAMBA™ print bars in the Jet 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 Jet 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 to 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

colour managed workflow and screening technologies

1200 x 1200 dpi four level greyscale inkjet heads

The new in print

registration accuracy better than offset



### Registration, registration, registration

Quality is nothing without consistency. Because the Jet Press 720S makes use of an offset paper feed mechanism, which adjusts automatically when the paper size is selected, 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 Jet Press 720S, the registration and repeatability from sheet-to-sheet are second to none.

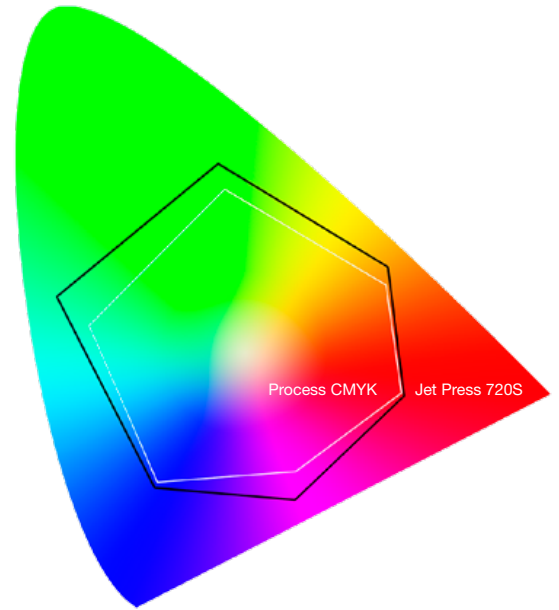




### High performance, water-based inkjet ink

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

The result is VIVIDIA - a new range of high performance CMYK ink colours 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 litre, invisible to the naked eye, are discharged at high speed to deliver breathtaking print quality. In the Jet Press 720S, these inks have been refined even further, optimising the combined performance criteria of quality, drying and ink rub-off from sheet to sheet.



larger colour gamut  
water-based inks

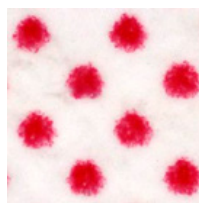
standard  
quality

bleed-free ink  
coagulation technology

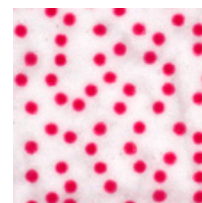
real-time closed-loop  
colour control

### 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 Jet 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

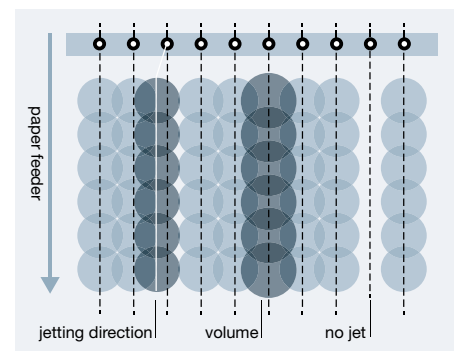


Jet Press 720S

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 Jet Press 720S, this system is now mounted immediately after the print bars, enabling the ILS to make any necessary adjustments sheet by sheet.





### The powerful heart of Jet Press 720S

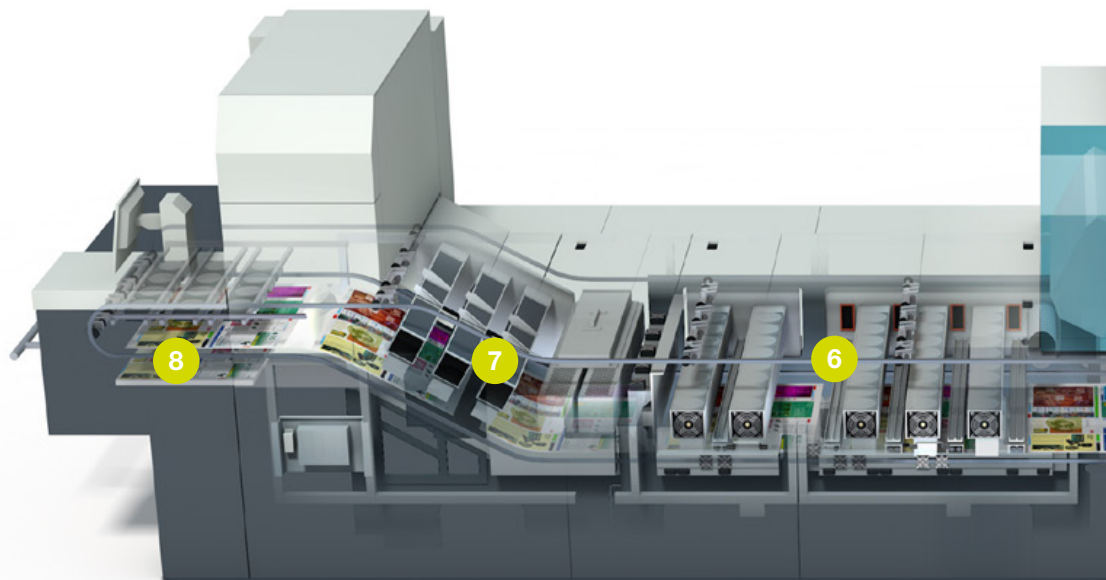
SAMBA™ modular printheads are the powerful heart of the Jet Press 720S. The result of many years of painstaking R&D development and manufacturing expertise, these high performance printheads are now the benchmark by which all others in the industry are judged. In the Jet Press 720S, the design has been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



## A second generation press engineered to produce high quality print all day, every day

The Jet 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 Jet 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 minimise breaks in production due to press maintenance.



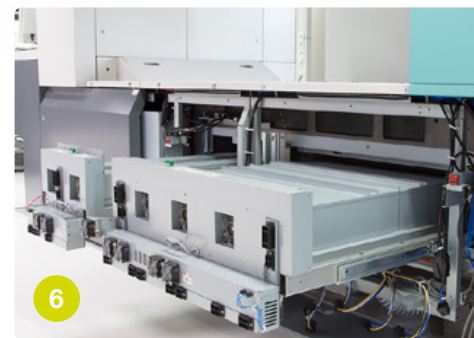
### Sheet stacking

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 optimise the sheet temperature and ink drying performance.



### Infra-red paper drying

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



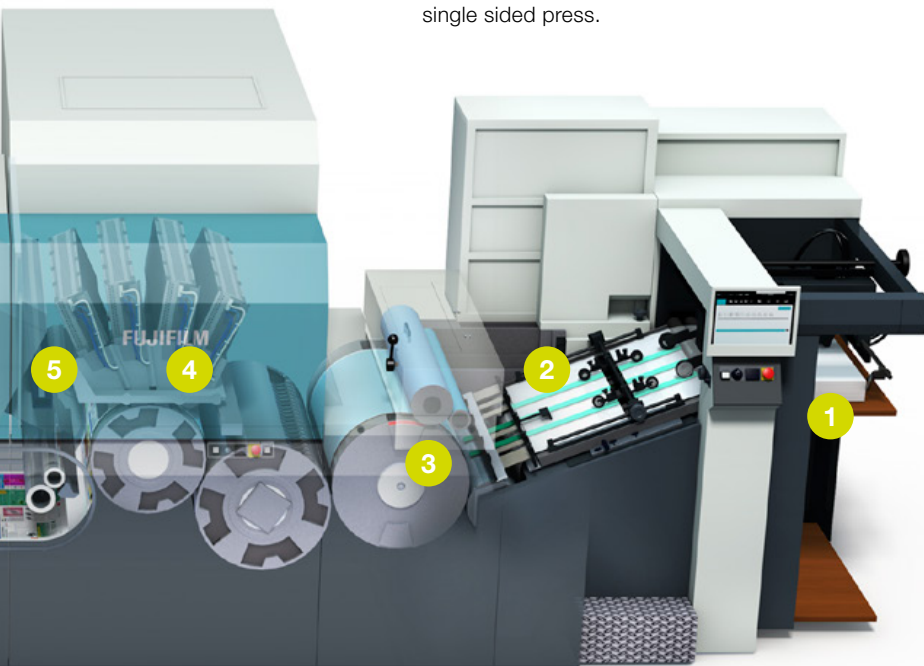
**Ultra-high capacity data servers**

New 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.



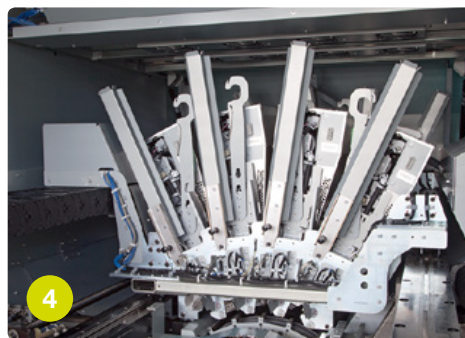
**Variable data scanning**

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 Jet 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 Jet 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



The ability to handle variable data is a fundamental advantage of a digital press, and the Jet Press 720S is no different even though it is a single sided press. 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 Jet Press 720S is able to print the second side on-the-fly at the full 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 Jet 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 colour management for the press automatically. Most of the time there will be no need to adjust colour settings, with 100% colour registration possible on the first printed sheet, but manual adjustments can be made where necessary.

### **XMF PrintCentre**

The Jet Press 720S can also benefit from a web2print system, such as Fujifilm's leading XMF PrintCentre solution. This cutting-edge cloud-based system is suitable for many different types of print business, from digital sign printers wishing to add an e-commerce platform to help drive a local digital print business, to much larger print businesses with a number of different print technologies that wish to add web2print capabilities to their armoury and maximise the opportunities of tight integration with a production workflow.

XMF PrintCentre can transform selling print into a 24/7 operation, broadening the range of services offered and extending automated print production to print buyers. It facilitates additional ways of doing business and is something that all print service providers should be considering if they are to move their business forward.



## A press that can be integrated into existing B2 print businesses

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

Firstly, as the machine is B2 format, it fits into existing B2 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 specialised 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**

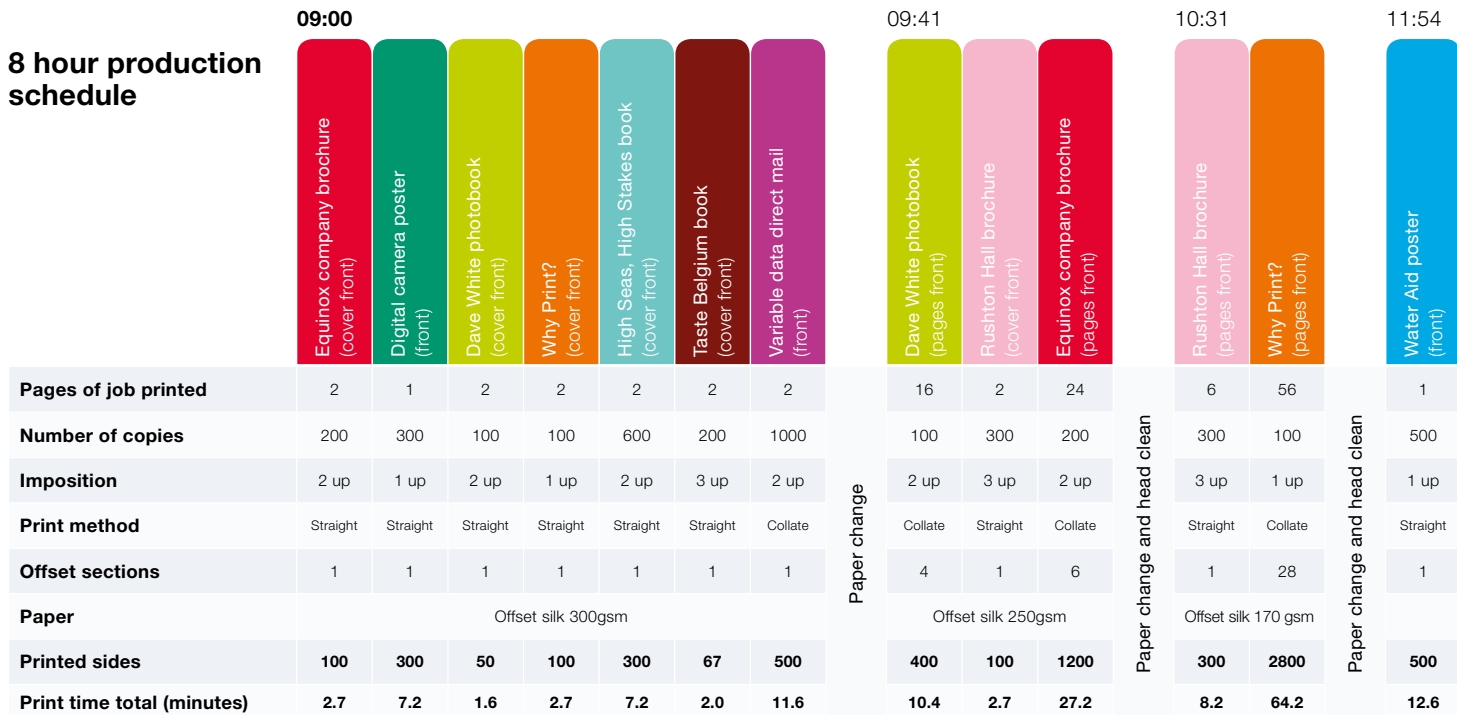
Finally, the range of finishing options available is much wider than with many other digital print technologies. Once printed, the B2 sheet can be treated like an offset sheet, dropping into existing finishing equipment with many special finishes possible. As a result, digital print can be treated like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



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

The Jet 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. A key factor in the realisation of this schedule is the ability to print the reverse side of the sheet soon after the first side has been printed, something which would be impossible on an offset press.



## 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 colour 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.

\* Assumes 100 waste sheets per equivalent offset press make ready





### Jet Press 720S summary



**9,567**

B2 sheets



**18,117**

printed sides



**28**

job changes



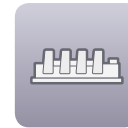
**430**

minutes  
print time



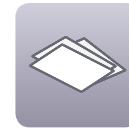
**488**

plates



**122**

press make  
readies



**12,200**

wasted  
sheets\*

### Offset equivalent

14:01			14:22			15:05		15:47		17:00					
Paper change and head clean			Back up all jobs			Paper change and head clean		Paper change and head clean							
Taste Belgium book (pages front)	Water Aid poster (back)	Taste Belgium book (pages back)	Water Aid A4 card	Sailing calendar (cover front)	Sailing calendar (pages front)	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	6	2	1	2	2	2	2	16	24	6	56
200	500	200	600	100	100	200	300	100	100	600	1000	100	200	300	100
3 up	1 up	3 up	4 up	1 up	1 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	Collate	Straight	Straight	Straight	Straight	Straight	Collate	Collate	Collate	Straight	Collate
10	1	10	1	1	6	1	1	1	1	1	1	4	6	1	28
Offset uncoated 170gsm			Offset silk 300gsm			Offset silk 300gsm						Offset silk 250gsm		Offset silk 170gsm	
<b>2000</b>	<b>500</b>	<b>2000</b>	<b>150</b>	<b>100</b>	<b>600</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>4.8</b>	<b>2.7</b>	<b>13.8</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>



#### 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 Jet 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, personalised if necessary.

#### Sailing calendar

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

## Exceptional environmental performance

There are a number of significant environmental benefits with the Jet 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 Jet Press 720S has a lower carbon footprint than an equivalent offset production system.

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

The advantage of digital print in terms of optimising the number of printed copies produced and minimising the over-runs is a key benefit of the Jet 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 Jet Press 720S as the make ready time is virtually zero.

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

As the Jet 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 Jet 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 Jet 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, manufacture, transport, use and eventual disposal. As a result, the company estimates that the carbon footprint of the Jet 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 Jet 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 specification

Jet Press 720S	
<b>Printing</b>	
<b>Printing-head</b>	FUJIFILM Dimatix SAMBA™ print bars (x4)
<b>Colours</b>	4 colour, CMYK printing
<b>Resolution</b>	1200 x 1200 dpi, 4 level greyscale
<b>Productivity</b>	Up to 2700 B2 sheets per hour (static and variable jobs)
<b>Workflow</b>	XMF v5.5 or later or a third party workflow with XMF Processor
<b>Variable data capability</b>	Yes, thanks to barcode system and high capacity data transfer
<b>Substrate</b>	
<b>Sheet size</b>	545 x 394 mm to 750 x 532 mm
<b>Printable area</b>	Non printable area is: 13 mm from gripper edge side 2 mm from tail edge side 2 mm from side edges
<b>Thickness</b>	0.105 mm – 0.34 mm (thickness), 127 g – 300 g
<b>Type</b>	Coated paper (matt, silk or gloss) and specified uncoated
<b>Inks, Primer and Wash</b>	
<b>Inks, Primer, Wash</b>	VIVIDIA CMYK inks Rapid Coagulation Primer (RCP) Nozzle cleaning wash
<b>Ink light fastness</b>	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
<b>Shelf life</b>	2 years under recommended warehouse conditions
<b>Packaging</b>	Inks, RCP and Wash in 10 litre packs
<b>Physical</b>	
<b>Dimensions</b>	8019 mm (w) x 2653 mm (d) x 2050 mm (h)* * The height when cover is open is 2293 mm
<b>Space requirements</b>	12 m x 5 m x 3 m including transformer and workflow RIP
<b>Required weight bearing load</b>	More than 2.2 tonnes/square metre
<b>Power requirements</b>	Jet Press 720S: 3-phase 400 VAC 55KW (transformer is part of machine package)
<b>Operating environment</b>	20 – 28°C, 40 – 60% RH

This brochure was printed on the Jet Press 720S



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