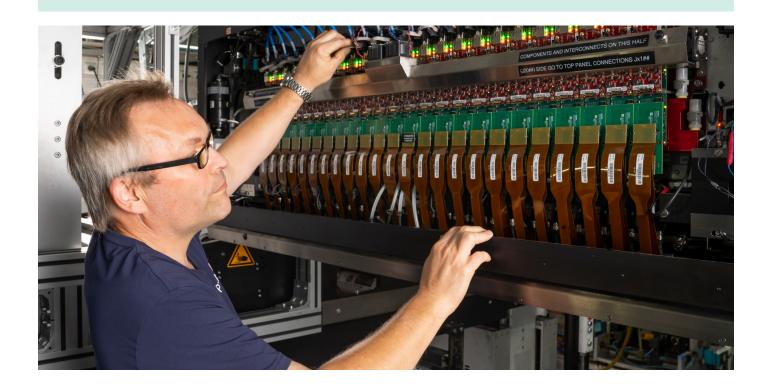


Imprinting systems

PRODUCT GUIDE



Printed on the Jet Press 750S

Discover our imprinting systems

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Why Fujifilm?

Fujifilm's legacy, technology portfolio, size and diversity gives the company a powerful platform to develop leading analogue and digital systems. With an ambition to lead the transition to digital, we look forward to developing deep and sustainable partnerships long into the future.

Heritage

- We have a 60 year history in the development of high performance solutions for multiple printing applications.
- Our inkjet technology portfolio has grown to be the strongest in the industry, allowing us to develop leading digital systems.

Stability

- We have a diverse technology portfolio across multiple industries.
- We invest significant amounts in R&D to ensure we deliver the best combination of performance and value.

Support

 We have developed a world-class infrastructure to support your business, whatever the situation.

We value trust

 Trust is in our DNA, from our origins as a photographic film business, to our company-wide charter for corporate behaviour.

Integration

 Our proprietary printhead, ink and integration expertise, across multiple industry sectors, means we are well equipped to develop the best systems on the market.







Fujifilm imprinting

solutions

Fujifilm's imprinting solutions allow digital inkjet printing to be integrated directly onto existing analogue production lines for a broad range of printing and industrial applications.

Fujifilm is unique in that it is a company that has developed its own industry leading core inkjet technologies, and added the ability to integrate these technologies into existing processes. This means that Fujifilm's printhead designers, ink technologists and integration specialists work together to ensure optimum system performance and reliability for the required application, and once built, are able to take ownership of the complete solution.

Fujifilm can therefore provide all components necessary to successfully integrate a digital solution into an existing production line:

- Printhead & printbar design
- Inks & substrates
- · Electronics & software
- Print systems
- Transport systems (web and sheet)

What also sets Fujifilm apart are the industry leading printheads and ink at the heart of the company's imprinting solutions. Samba printheads are found in many of the industry's leading digital printing systems, as they combine the very highest quality, productivity and reliability, with the flexibility to be used with a variety of different inks and fluids. Fujifilm has now built these printheads into a number of scalable printbar configurations which, when combined with UV or aqueous ink technologies, result in best-in-class imprinting solutions.

A solution configured to your application

Fujifilm's approach is critical to ensure that any imprinting system can be configured to meet specific application requirements. This is achieved by a dedicated team of multi-disciplined engineers working together to understand the print performance demands and production process. This then results in a specification for a system configuration that delivers exactly what is needed, including attributes like print width, print quality, colour channels, pre- and post-treatment, printed product performance and regulation compliance.

Integration into your production process

Many production setups are different, requiring a customised approach to integrate imprinting. Other production setups demand the scaled deployment of standard systems across sites. Fujifilm has the expertise and scale to accommodate both types of approach, and for the latter, can provide standard designs to accommodate multi-site roll outs and standard operating interfaces so workforce training is streamlined and consistent across sites. Whatever the configuration, proof-of-concept, testing and validation stages are built into the system development to ensure streamlined implementation on site.



Samba – the heart of Fujifilm

imprinting systems

Samba is a quantum leap forward and is redefining how inkjet technology is designed, manufactured and applied.

The jetting of ink onto paper is a well established process in consumer printers, but scaling up the technology to meet the quality and productivity needs of industrial printing is not easy. Fujifilm's answer is Samba – a 'printhead on a chip'. This printhead is fabricated on silicon wafers, in much the same way large scale integrated circuits found in computers are made.

Due to its scalable design, Samba enables individual printheads to be placed close to each other to form single, tightly integrated printbars. It is the first piezo drop-on-demand inkjet platform that truly delivers wide-width, high resolution, single pass inkjet printing without the typical trade-offs in quality, redundancy or print width.

Fujifilm's Samba drop-on-demand printheads deposit billions of drops per second, each directed to a precise location, producing high-resolution single-pass imprints at an incredible speed. Each industrial Silicon MEMs constructed printhead has 2,048 nozzles to deliver a native 1200 dpi resolution with an ink drop size as small as 3 picoliters.

Benefits of Samba

Ultra-high resolution ink deposition

Rated for trillions of actuations for ultra-high reliability

Closed loop ink recirculation for uninterrupted production

Fast start-up times and minimal printhead cleaning and refurbishment

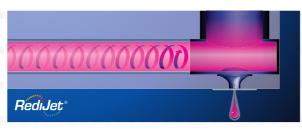
Suitable for multiple fluid types

No refurbishment needed

High uptime and reliability for excellent total cost of ownership

The silicon MEMS design of a Samba printhead is rated for trillions of actuations to ensure reliable and profitable operation. This is coupled with a patented REDIJET® ink recirculation system. This system ensures that ink is constantly recirculating in a closed loop that will not disrupt printing, resulting in uninterrupted production. When coupled with a Fujifilm ink in an imprinting system designed to leverage this capability, it results in fast startup times, simplified printhead cleaning procedures, and consistent print quality.

Samba printhead life is measured in years, not hours, and in Fujifilm printbar systems, is not considered a consumables part. Ultimately, the design of our Samba imprinting systems means there is less production waste, lower ink consumption, and lower operating costs.



Fujifilm's patented REDIJET® recirculation system ensures printbars are quickly primed with minimal waste and improved reliability.

Samba printhead. Not visible to the naked eye, 2048 nozzles are contained in the silver coloured silicon chip which measures just 44 mm wide by 18 mm deep. There are also 2048 dots on this page.

Ground breaking



Scalable architecture design

Fujifilm's Samba technology platform is based on a scalable architecture design, so the print width can be configured to meet the needs of a particular application.

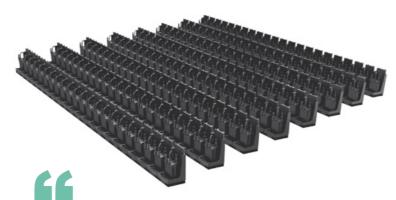
Due to the trapezoidal design of Samba printheads, scaling the printbar width is achieved with no compromise to quality, and results in a very efficient system design. In addition, the scalable system architecture means integrated components, electronic systems and software can all be scaled to create a system for the print width and colour channels required.

From single printhead to complex multi-channel configuration

Printbar configurations can be scaled from a single printhead, single colour system for coding, language changes or simple promotional versioning, to a printbar system with multiple printheads for the printing of full colour images over wider print areas.

Wide ranging Samba printbar portfolio for any print width in 40 mm increments

- Monochrome, spot colour, process colours
- · Imprinting lanes or full digital print
- Digitise existing analogue assets



Due to Fujifilm's unique data processing architecture, the print width and number of printbars can increase to massive scales for industrial production."

From a single printhead configuration...









Transport systems

Fujifilm offers two different types of high-speed media transport systems, called TransJet R and STS Series, for use in conjunction with the company's portfolio of inkjet printbar systems for applications where an off-line media transport is needed. The resulting combination of transport and printing system can be retrofitted to an existing analogue production line or be a hybrid of an existing asset with new digital printing capabilities.

TransJet transport systems can be configured for reel to reel, reel to sheet, sheet to sheet, or reel to fanfold operation without significant modification. Configurations are scalable and modular, and can support monochrome and colour, simplex and duplex digital printing with options such as pre-treatment, curing, drying, and quality inspection. Support is also provided for finishing operations such as perforation, plow folding, punching, varnishing and systems can support up to 10 colours including specialty inks. Equipped with Fujifilm digital printbar systems, TransJet systems are capable of printing on paper, carton board, film, and metal. The reel-to-reel version has a productivity up to 300 m/min, and the sheet-to-sheet version up to 200 m/min.

Benefits include:

- Flexibility for a wide variety of applications and site conditions
- Compact design
- Consistent and reliable susbtrate/media handling
- Simple user interface
- Various programmable options
- Piece tracking

TransJet systems are also designed to work in coordination with finishing functions, including:

- Inserting
- Cutting
- Binding
- · Book-on-Demand
- and many more...





Imprinting systems

Complementing existing processes

Opportunities for inkjet to complement existing production processes

The Fujifilm imprinting range comprises a number of different scalable printbar solutions and formats, combined with a variety of different ink types. This means that there are opportunities for Fujifilm's imprinting solutions to be integrated onto many different types of production equipment, whatever the format.

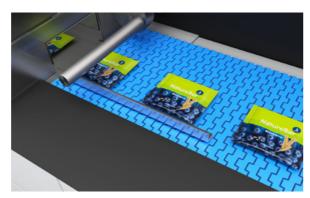




1. Package converting in a web process



2. Package converting in a sheet process



3. Late stage packaging



The wide variety of Fujifilm imprinting solutions makes it possible for many different applications to be enhanced by digital inkjet, from direct mail and transactional applications in commercial printing, to label, packaging and industrial production processes.







1. Direct mail

2. Commercial

3. Direct to food







4. Packaging

5. Industrial

6. Transactional

Enhanced by inkjet

















Intelligent imprinting

investment

Paragon cited the reliability and high up-time of the technology, as well as Fujifilm's robust local service operation, among its reasons for the investment

With more than 9,000 employees in 20 countries and an annual turnover of more than €1.2 billion, Paragon Group is a major global player in direct mail, transactional print, business outsourcing and packaging. Within that wider business, Paragon Germany employs more than 1,200 employees across eight locations in Germany, Czech Republic and Poland.

Looking to replace legacy inkjet imprinting equipment on a direct mail production line in Schwandorf, Germany, the company has turned to Fujifilm and its industry-leading imprinting solutions, installing a pair of one metre wide Fujifilm imprinting bars to print to the front and the reverse of the web.

"There were a number of reasons we went with Fujifilm over rival systems," explains Bernd Wein, Paragon Operations Director, Direct Mail. "We liked that they fully own all the technologies – the printheads as well as the integration technology. It gives us confidence to be dealing with one partner - a partner that we were confident could offer the service and support we need to ensure ongoing smooth operation and the swift resolution to any problems.

"It's also proven technology," Mr Wein continues. "Fujifilm has a long heritage in inkjet, and its imprinting solutions are tried and tested. They're a strong and respected manufacturer and a financially robust and stable company that we know we can depend on over the long term.

"The fact that Fujifilm acquired Unigraphica in 2022 was also a factor in our investment decision. The combination of Fujifilm and Unigraphica inkjet systems integration expertise was a very attractive proposition.

"Finally, Fujifilm was also able to provide a bespoke system as large as one metre wide. No one else we spoke to was able to do that. And furthermore, compared with our legacy system, the Fujifilm imprinting system gives us more up-time, shorter setup times and results in far less waste."

Stefan Steinle, Sales & Business Development Manager, FUJIFILM Integrated Inkjet Solutions, Europe comments: "We're delighted that a company of Paragon's reputation and standing has chosen to invest in Fujifilm inkjet imprinting technology. We look forward to boosting Paragon's productivity, and reducing its costs for many years to come."

Bernd Wein, **Operations Director, Direct Mail Paragon Customer Communications**





Imprinting systems Printbar systems



Mini 4300 Series: versatile printbar system

The Mini 4300 has speed, performance and consistency in a compact form. This enables the incorporation of digital printing into an ever-expanding number of new applications and challenging conditions for equipment integration.

Flexibility for a broad range of markets

The Mini 4300 is configurable with up to four individually controlled printbars. The system provides single pass printing in monochrome or process colour for a wide variety of production applications, including:

- Addressing
- · Coding & marking
- Serialisation & package tracking
- Narrow width direct mail imprinting
- Consumer facing coding
- Variable data images
- Demonstrations
- Tickets and cards
- Short notice changes in art/imagery
- Printed electronics
- Deposition of high-value fluids
- Labels

Key features

- Single pass inkjet imprinting system
- Each printbar contains a single 1.6" width printhead (40 mm)
- Up to 4 printbars per system
- 1200 dpi Native Resolution
- Speeds up to 1000 feet per minute
- Monochrome, Spot color or 4-Color
- Aqueous & UV



ne/nearline, single or multiple printheads					
92 mm					
n/min]*					
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X-BAR: drop-in imprinting solution

The X-BAR brings digital, variable data printing such as barcodes, text elements, logos and more, to conventional analogue presses.



The X-BAR system's drop on demand inkjet printing is reliable, cost effective, and provides excellent image quality in font sizes as small as 2 point and 1D barcodes as small as 6.7 mils. It is compatible with legacy systems and is backed by Fujifilm's world-class technical support, to provide a smooth transition to modern inkjet technology for direct mail, transactional print,

promotional materials and more.

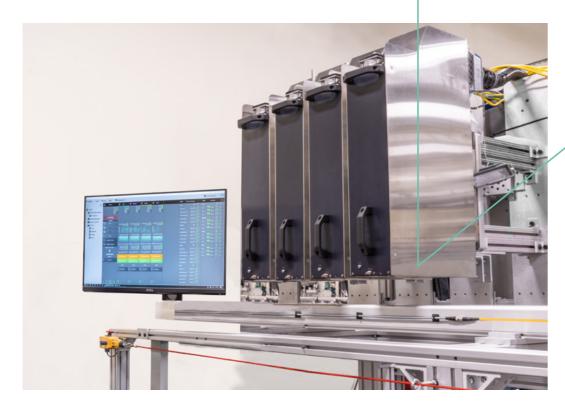
Key features

- Lane printing with 4.5" and 9" print width offerings
- Controller capable of running X-BAR and some existing legacy printers
- Workflow based on IJPDS page description language
- Familiar user interface to support transition from legacy technology
- Modular fluid management for future expansion
- No refurbishment needed

Key specifications	X-BAR
Line speed	Up to 1000 fpm / 305 mpm (1200x600 dpi), 328 fpm / 100 mpm (1200x1200 dpi*)
Number of colors	One color system: black or spot color
Print width	119 mm or 239 mm
Ink	Aqueous inks
Drying	Customer supplied
Cross process resolution	1200 dpi
Process resolution	300/600/1200 dpi
Text quality	Excellent image quality to 2 pt font*
4.7 in (119 mm) printbar	193 mm x 188 mm x 546 mm
9.4 in (239 mm) printbar	663 mm x 155 mm x 678 mm

*Capabilities may vary depending on application and substrate

20 *Results may vary depending on application



12K Printbar: compact printbar system

The 12K Printbar System puts 4 colour inkjet printing technology into an all-new condensed form. It supports use where space is limited, such as integrating into existing production equipment.

The 12K Printbar System is a turnkey digital inkjet printing system for installation onto your analogue printing press or other production line equipment. It is most commonly used for adding variable data to analogue pre-printed shells (imprinting) or can be used to add a digital print capability when changing printing plates is not practical for short runs. It has a print width of 127 mm, and provides 1200 dpi, 4-colour inkjet print. The printbars occupy only 53.3 cm in the print process direction, with their small size meaning digital inkjet printing can be added to many types of production lines where it was previously impractical.

Key applications

The 12K Printbar System can be used in a wide variety of applications, including:

- Commercial printing
- Direct Mail
- Transactional
- Folding Cartons
- Corrugated

Key features

- Add 4-colour variable print to existing equipment
- Compact for ease of integration
- Does not require printbar refurbishment
- Fast startup
- 1200 dpi or speeds of up to 300 m per minute
- Each printbar is small enough to be removed by hand for servicing or storage

Key specifications	12K Printbar System
Print width	Up to 127mm width
Print speed & resolution*	Cross process resolution 1200 dpi 425 FPM / 129.5 mm (Resolution: 1200x1200 dpi) 615 FPM / 187.5 mm (Resolution: 1200x600 dpi) 1000 FPM / 304.8 mm (Resolution: 1200x300 dpi)
Fluid	Aqueous, UV and solvent inks
	Monochrome
Color & quality	CMYK (CMYK to monochrome conversion) 2-bit grayscale Native drop size 2.4 pL Max drop size 13pL Smallest font 2pt (4pt knockout)*
Printbar dimensions	1 printbar: 352.4 mm x 127.8 mm x 667.0 mm



42K Printbar: scalable printbar system

The 42K Printbar System is designed to add variable data printing to your conventional press in any print width needed, and is able to span the media from edge to edge.

The 42K Printbar System uses Fujifilm's renowned Samba printhead in a highly configurable form. With 1,200 dpi ink deposition, the 42K Printbar system is designed to meet print requirements from single page to multiple pages in any print width needed, and with print speeds over 300 metres per minute.

Flexibility

Since the 42K System can be integrated in line with your system, you can maximise your productivity and return on investment while supporting existing, legacy or proprietary workflows. These will be integrated into our print controller and fluid management technologies to deliver a compact and capable system designed to meet your needs for monochrome, colour, or speciality printing.

Key applications

- · Personalised direct mail
- Form-based transactional imprinting
- · Book and publication printing
- Corrugated cartons
- Folding cartons
- A broad range of coding and marking applications

Key features

- Modular design to meet typical press widths
- Pre aligned to eliminate stitching
- Options for monochrome, spot and process color printing
- Configurable software with Fujifilm supplied workflow or connect to an existing customer workflow
- Imprint or full digital print capability
- No refurbishment needed

Key specifications	42K Printbar System			
Print width	Scalable to meet application needs in 4.06 cm increments			
Print speed & resolution	Cross process resolution 1200 dpi 425 frames/min / 129.5 m/min 615 frames/min / 187.5 m/min 1000 frames/min / 300 m/min, 1800 frames/min (548 m/min in dual array configuration)			
Fluid	Aqueous inks			
	Monochrome			
	CMYK (CMYK to monochrome conversion)			
Colour & quality	Native drop size 2.4 or 3.5 pL			
	Max drop size 13 pL			
	Smallest font 2pt (4pt knockout)			

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42X Printbar:

wide widths & advanced controls

The 42X Printbar System expands on the flagship 42K system, with increased speed across web-spanning widths and wide widths (up to 1m) to eliminate the need to reposition printbars.

The 42X Printbar System can reach 300 m/min at 300 dpi. For high-resolution quality, it is capable of 1200 dpi in both the process and cross-process directions at 129.5 m/min. It also features a premium software set, and comes with the Kao Collins Universal Controller for a familiar interface that eases transition from legacy systems.

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Key features

- Available in sizes up to 1 m wide to avoid repositioning
- Comes with the Kao Collins Universal Controller for a familiar interface that eases transition from legacy
- Premium software features for commercial imprinting
- Speeds up to 300 m/min at 300 dpi

Key Specifications	42X Printbar System
Print widths	34.29 cm, 69 cm, 103.6 cm
Print speed & resolution*	Cross process resolution 1200 dpi 129.5 mm (resolution: 1200 x 1200 dpi) 187.5 mm (resolution: 1200 x 600 dpi) 304.8 mm (resolution: 1200 x 300 dpi)
Fluid	Aqueous inks
Colour & quality	Monochrome Native drop size 2.4pL or 3.5 pL Max drop size 13pL
Printbar dimensions	744.2 mm x 193 mm x 680.7 mm 1089.6 mm x 193 mm x 680.7 mm 1628.1 mm x 195.5 mm x 866.1 mm

*This performance level might not apply to all substrates and equipment/



DE1024 Printbar:

inkjet embellishment system

The DE1024 Digital Embellishment System adds gloss or tactile effects to existing analogue or digital print production. The system is designed to keep embellishments aligned consistently on pre-printed material, whether it is on coated or uncoated stock.

The DE1024 Printbar System can seamlessly integrate into existing label presses and other narrow-web machines to add varnish flair without an additional press. The system incorporates several of Fujifilm's proprietary technologies, including the StarFire® printhead, which provides superior jetting performance and the reliability that comes from a robust design constructed to exacting standards of fabrication.

Key features

- Available in 38.1 cm and 50.8 cm print widths
- Single or dual printbar configurations for a range of thicknesses
- Cross process resolution 400 dpi
- Available with lightweight 3IC Variable-Data Print File Creation software
- Native 400 dpi, utilising UV inks

Key specifications	DE1024 Printbar System
Print width	38.1 cm, 50.8 cm
Print speed & resolution*	Cross process resolution 400 dpi
Achievable thicknesses	1-printbar system up to 125 microns* Dual-bar system up to 190 microns
Fluid	UV inks
Color & quality	Native 400 dpi Native drop size of 80 ng (SG-1024 large drops) clear varnish 2-bit (one drop size output)
Printbar dimensions	857.25mm x 203.2mm x 642.62mm; 79.37 kg

^{*}This performance level might not apply to all substrates and equipment/site conditions

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46kUV Printbar: for label & packaging

The 46kUV Printbar can be added to an analogue printing press for the addition of variable data on labels and packaging at 1200 dpi.

The 46kUV Inkjet Printbar brings unrivaled print quality to single-pass, in-line print production. With the 1200 dpi resolution of the Samba® printhead, the 46kUV Inkjet Printbar provides fonts as small as 2 point to fit even the most demanding applications where label size is limited. With a flexible range of print widths and configurations, it can seamlessly integrate into your current print production process, and be used with a wide variety of substrates.

Key features

- Available in 33, 43.1, and 50.8 cm print widths
- Comes with integral splice avoidance
- Samba printheads producing 152 m/min at 1200x600 dpi
- Cleaning and capping module keeps the printheads clean and functioning
- Available with lightweight 3IC Variable-Data Print File Creation software

Key specifications	46kUV Printbar System
Print width	33.0 cm, 43.1 cm, 50.8 cm
Print speed & resolution*	Cross process resolution 1200 dpi 93 m/min (resolution: 1200 x 1200 dpi) 152 m/min (resolution: 1200 x 600 dpi)
Fluid	UV inks
Color & quality	Monochrome Drop size 4 ng Smallest font 2pt (4pt knockout)
Print controller	Yes

*This performance level might not apply to all substrates and



TransJet R Series:

reel-to-reel transport systems

The TransJet R reel-to-reel high speed transport system is a precise and application independent solution for digital printing. It enables easy integration of upstream or downstream processes such as unwinders, rewinders, or cutting lines over existing controllers.

Wide range of applications

- Security printing
- · Personalised addressing and direct-mail messaging
- · Forms and catalogues
- Barcodes
- Statements and bills
- Lottery and gaming tickets
- · Book on demand
- and many more...

Inspection

- Dual-sided inspection
- Transmitted light inspection

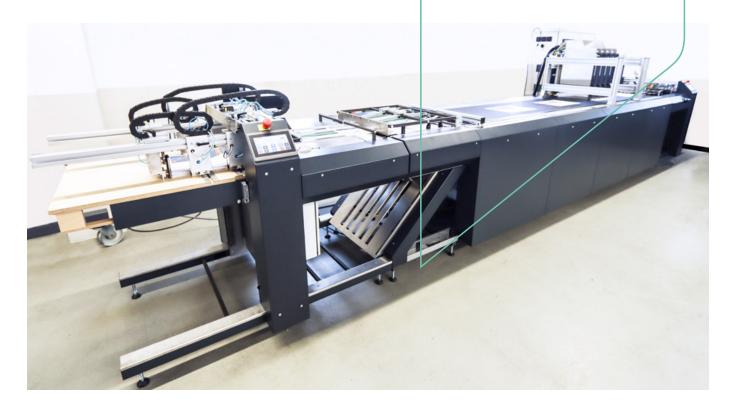
Key features

- Application independent precision transport system
- Computer controlled servo motors can be operated by touch pad
- Easy integration of upstream or downstream systems
- TransJet transport system can be operated with a single, consolidated user interface
- Individual adjustable web tension enables processing of thin and thick substrates (up to 300g/m²)

Key specifications	Transjet R S/D 300 520/1040					
Туре	Reel transport system					
Front/backside print	Simplex		Duplex			
Web width	520 mm	1040 mm	520 mm	1040 mm		
Web width min	120 mm					
System speed	Up to 300 m/min*					
System prepared to accommodate	Inkjet system Dryer Camera Splice detection Flexo printing unit Plasma, corona treatment Other aggregates on demand					

^{*}Capabilities may vary depending on application and substrate

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TransJet STS Series:

sheet-to-sheet transport systems

The TransJet STS sheet-to-sheet high speed transport system is designed for digital printing, sheet separation, inspection, sorting and stacking. It accommodates easy integration of process-related functionalities such as inkjet system, camera supervision, laser microperforation, and other aggregates on demand.

Wide range of applications

Inkjet printing

- Security printing
- · Packaging printing
- Commercial printing

Inspection

- · Dual-sided inspection
- · Transmitted light inspection
- Magnetic control
- and many more...

Key features

- The TransJet STS transport system consists primarily of the following modules, and is an interface to standard finishing systems:
- Flat pile feeder
- Round table feeder
- Vacuum-belt-table
- Reject gate
- Delivery conveyor or stacker

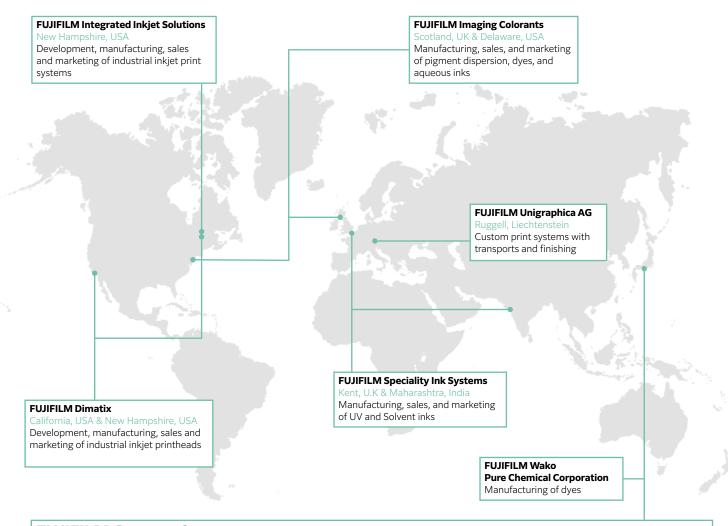
Key specifications	Transjet STS S/D	Transjet STS S/D 200 520/1040					
Туре	Sheet transport system						
Front/backside print	Sim	plex	Duplex				
Sheet width	500 mm 1000 mm 500 mm 1000 mm						
System speed	up to 200 m/min*						
Substrate thickness	0.07-0.5 mm (standard system - thicker substrates such as corrugated material and metal plates are also possible to process, depending on the application)						
System prepared to accomodate	Inkjet system Camera Laser microperforati Other aggregates or						

^{*}Capabilities may vary depending on application and substrate

Fujifilm's global inkjet infrastructure

Global Fujifilm support

Our global inkjet infrastructure is second to none, and all our imprinting systems are backed up by a world-class Fujifilm support team, with a single point of contact for all support enquiries.



FUJIFILM Corporation

Inkjet Business Division

Formulation of business strategy Sales and marketing of inks, printheads, components, and system integration

Advanced Marking Research Laboratories

Development of ink formula, marking process technology and printhead handling

Development of image processing technology

Synthetic Organic Chemistry Laboratories

Development of unique proprietary materials

Functional Materials Manufacturing Headquarters

Manufacturing of dyes and aqueous



Please contact your	local	Fujifilm	partner	or	visit:
fujifilmprint.eu					



Fujifilm Print



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