Corrugated packaging and displays

The complete UV inkjet system for sheet-fed corrugated print production
UV inkjet: The power to transform corrugated sheet printing

In today’s fiercely competitive retail environment, brands and retailers are creating new ways to differentiate themselves in-store. There is now demand for more frequent campaigns, customisation and versioning. For corrugated printers this means shorter runs and faster job turnarounds which are uneconomical with traditional processes like flexo and offset.

Meet (and drive) demand with digital technology

Rapid advances in inkjet technology continue to change the way print is produced and it is now a viable alternative to traditional processes in many wideformat, packaging and industrial applications. A key factor in the growth of inkjet in these markets has been the ability to print with UV-curing inks, delivering incredible productivity, quality, application range and versatility.

UV inkjet is a technology that was pioneered by Fujifilm and Inca Digital, with the launch of the first dedicated flatbed system in 2001. Today Fujifilm’s wide format printing portfolio includes the most powerful inkjet printers in the industry, and it has combined this technology with its experience of supplying screen consumables to the corrugated market to create an inkjet solution for corrugated display and package printing.

Fujifilm’s inkjet technology for corrugated display and package production offers many benefits to a print business:

- The most cost-effective way to print one-off or hundreds of pieces
- Provides the fastest possible job turnaround and ability to print just in time
- Enables the production of on-demand short run and bespoke work
- Enables endless customisation of print campaigns
- Eliminates pre-press costs, as no plates or pre-coating processes are required
- Reduces waste in the supply chain

By adopting Fujifilm inkjet technologies, you can meet changing demands from your customers and work with them to create new ways to differentiate themselves by offering a new way to print.
The efficient way to produce short runs

Inkjet technology is ideal to complement flexo or offset processes in that it allows converters and packaging manufacturers to widen their business opportunities and profit from short run jobs and bespoke applications.

The most efficient way to produce short run print is to send a PDF to the press and print. This is how Fujifilm’s inkjet system operates, eliminating all the timely and costly preparation and set up parameters of an offset, screen or flexo 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.

Printed sheets can be handled immediately and print quality and consistency is guaranteed, with no on-press adjustments necessary.
CORRUGATED PACKAGING AND DISPLAYS

Ready to transform your business

Fujifilm’s system for corrugated printing enables you to produce the same broad range of work you might be doing today, but with much faster turnarounds and is a profitable solution for short runs. Even one-off proofs can be made on the same press.

Fujifilm’s UV inkjet printing process produces near-offset print quality, but with stronger, more vibrant colours, producing prints with high visual impact.

Instant curing UV

UV inkjet printing uses UV light to instantly cure the ink by polymerisation after it has been jetted onto the material. With Fujifilm’s specially designed UV inks for corrugated printing, this offers the following benefits:

- The print is instantly dry and can be stacked or finished straight away
- Prints can be cut, creased and folded without cracking
- UV inkjet is a non-contact printing process, so it doesn’t damage the corrugated flutes
- The finish is fully adjustable from satin to high gloss
- Standard stock materials can be used - there’s no need for expensive digital substrates, and they don’t have to be pre-coated
- Excellent colour coverage over a wide range of materials
- Excellent colour reproduction, with print-to-print consistency
- No need for post-print over-varnishing or lamination. The cured UV ink film is a tough, durable polymer film which actually provides a protective layer for the board

Challenge your clients to think differently

With the ability to print on demand, design changes can be made as often as you like without having to factor in overprints, stocks, setup costs or wasted sheets. So you can offer your clients new ways to take their products to market.
The modular system solution

Not every corrugated print business is the same, so Fujifilm has designed a modular system for corrugated print production, consisting of three parts: printer, ink and media handling. Within each part there are multiple options, so the system can be tailored to meet your specific business needs.

To explore the system options and find a configuration that is suitable for your business, visit www.powerofinkjet.com.

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**Onset printer platform**

- Powerful printer series with choice of productivity and image quality
  - **Dedicated flatbed**
    Direct to media UV printing with powerful vacuum table for printing single or double walled boards
  - **Benchmark productivity**
    Full-width printhead array for high speed printing
  - **Class-leading image quality**
    High resolution piezo inkjet
  - **Maximum uptime**
    Proven Inca Digital technology and robust build quality
  - **Built for the future**
    Scaleable Architecture and modular design

**Uvijet inks**

- UV inks designed for corrugated printing
  - **High pigment loading**
    Vibrant colours, accurate colour reproduction
  - **Finishing performance**
    Excellent cut, crease and folding capability
  - **Finish control**
    Low-glare satin to high impact gloss
  - **Low odour**
    Meets DIN standard for odour
  - **Jetting reliability**
    Inks and printheads are tuned for optimised jetting
  - **Consistency**
    Quality assured manufacturing process ensures batch-to-batch consistency

**Media handling**

- Powerful handling systems with options for level of operator involvement and material type
  - **Multi-sheet capability**
    Work with one full bed sheet, or multiple sheets
  - **No damage to board**
    Vacuum pickups don’t apply pressure which may crush the flute
  - **Excellent print registration**
    Sheets are positioned accurately on the print bed
  - **Excellent stack registration**
    Sheets are stacked perfectly for accurate post-processing eg. die cutting
Powerful inkjet print production

Fujifilm’s modular system solution is a simple way to integrate inkjet print production into your business.

- Compact footprint and easy access to printer
- Fits into your existing corrugated production workflow
- Only one operator is required
- System is factory pre-built, so installation time is minimal
- Fast and professional installation and training

The system configuration shown includes an Onset R40i printer with Uvijet OL inks and a fully automatic load/unload system for standard board.
Onset: The ultimate production flatbed

The powerful Inca Onset is the established leading UV flatbed platform for the production of high quality, high impact graphics with outstanding productivity.

Onset printers are built to deliver three things we know are important to print companies:

- **Business efficiency:** Onset offers better efficiency and productivity, producing like-for-like print quality at higher throughput than any other UV inkjet machine.
- **Business development:** Onset enables the production of high run length jobs which until now were not viable using inkjet technologies.
- **Low investment risk:** Onset is powerful enough to pay for itself in six months. As a business model it gives owners the opportunity to plan their business with much more confidence.

Future-proof Scalable Architecture

In 2013, Inca introduced the concept of Scalable Architecture design, which allows a machine to be tailored to meet individual business needs at the time of initial investment, and then allows for future expansion.

Onset X takes Scalable Architecture to the ultimate level to give you an investment that is future-proof. It is built to allow printhead configurations to change and grow without having to change other parts of the machine.

This gives you the freedom to adapt to change and explore potential business opportunities, whilst giving you the security to respond to your business needs today.
One platform, ultimate flexibility

Key to its flexibility is the unique 14 channel capacity built into every Onset X.

Every Onset X is built with 14 colour channels

Choose a printhead drop size to meet your quality needs
Every Onset X uses high-performance Fujifilm Dimatix printheads, with the option of 9, 14 or 27 picolitre fixed drop sizes. A small drop size is right for you if you produce a lot of very high quality work intended for close viewing.

Choose CMYK modules to meet your productivity needs
The starting point is four populated channels with a CMYK configuration using your choice of printhead.

Choose additional colours to meet your application needs
Then there is the possibility to add light colours to increase image quality, in combination with extra sets of CMYK to increase productivity.

4 ways to begin your investment

**Onset X1 LT**
Delivers a maximum throughput of 200m²/hr.
(40 beds per hour).

**Onset X1**
Delivers a maximum throughput of 400m²/hr.
(80 beds per hour).

**Onset X2**
Delivers a maximum throughput of 640m²/hr.
(128 beds per hour).

**Onset X3 – The fastest Onset ever**
Delivers up to 900m²/hr.
(180 beds per hour).
Built for long-term performance

**Outstanding build quality**
6th generation moving print bed technology from Inca Digital delivers unbeatable uptime.

**Fujifilm Dimatix printheads**
Industrial printheads with proven reliability in production over many years.

**Full-width printhead array**
Spans the width of the print bed, for consistent print without textural banding.

**Full-width UV lamp system**
Multiple UV lamps that allow for fast bidirectional print.

**25 zone vacuum table**
Independently controlled vacuum zones reduces need for bed-masking.

**Simple operation**
A new graphical user interface provides powerful but simple-to-use printer and job management.

**Uvijet ink**
Fuelled by Fujifilm’s Uvijet inks which produce strong, vibrant colours.

**Accessible bed design**
Simple loading of rigid materials, with 80kg capacity and maximum media thickness of 50mm.

**Intelligence features**
Onset monitors its own condition to maintain optimum performance, print quality and protect printheads.
Intelligence for peace of mind

Intelligence features enable Onset to monitor its own condition to maintain optimum performance and print quality and minimise printhead deterioration or damage.

**Intelligent cleaning**
Sensors monitor the amount of UV light exposure around the print carriage and control the cleaning cycles in the daily schedule to maintain optimum performance and printhead life.

**Intelligent print quality management**
Inca’s iNozzle intelligent nozzle mapping system maintains print quality even if printhead nozzles are missing or deviating which would otherwise be seen as very visible print defects.

**Intelligent vacuum bed monitoring**
Vacuum level monitoring will stop printing if the pressure is too low to hold the material securely. This helps to prevent possible damage to the print carriage when printing porous materials.

**Intelligent material height detection**
The material height detection system detects lift across the material and ignores small defects in the surface which do not pose a risk to the print carriage, reducing unnecessary stoppages and downtime.

**Intelligent software**
Inca software helps users increase the efficiency and productivity of Onset, enabling access to key management data.

Service and support network

Your business depends on maximum uptime from your digital equipment. Inca Digital and Fujifilm recognise that your investment in cutting-edge technology needs to be matched by a support service that is customer focused, responsive and reliable.

Onset installations are supported by warranty, parts and service package options, tailored to best suit your business. Front-line support is available in every region using engineers certified by Inca’s training facility in the UK, and Fujifilm and Inca continue to invest to expand their support base to maximise printer uptime.

Inca Vision is a remote system that monitors Inca printers for enhanced customer support. It enables a machine condition to be diagnosed and, in many cases, catch issues before you need to call an engineer for service.
Uvijet ink: The technology that fuels the machine

Smooth, high definition, vibrant prints

Fujifilm’s Uvijet OL ‘low odour’ inkjet inks are specially formulated for corrugated printing. They are manufactured with Fujifilm’s proprietary Micro-V dispersion technology which enables high pigment concentrations at the right viscosity for jetting. The result is visibly stronger, more vibrant colours that deliver excellent mileage and reliability. With a wide colour gamut, Uvijet inks have excellent tonal and spot colour reproduction.

Together with Onset’s UV lamp control it is possible to control the finish of a print from low glare satin to high impact gloss.

Uvijet OL inks are designed to meet the performance requirements of corrugated prints, including excellent cut, crease and folding capability, and finished prints meet the DIN EN1230-1: 2010-12 standard for odour, which is comparable to flexo and offset.

Match ISO standards

With Uvijet OL inks, it is possible to produce prints that match the ISO 12647-2 offset standard, so colour matching across print processes can be possible. The Fujifilm inkjet system can run alongside existing analogue printing equipment so you can use the most cost-effective technology to print a job.

The colour gamut of Uvijet OL is bigger than ISO 12647-2, enabling the printing of corrugated sheets that match the standard.
Every drop matters

Onset’s full-width printhead array jets billions of drops per second, each directed to a precise location, producing hundreds of square metres of high-resolution print per hour.

The demands on printheads and ink performance are very high, but to jet well and reliably they must be designed for each other.

Onset’s Uvijet inks are developed by Fujifilm Speciality Ink Systems in the UK, working in partnership with sister company printhead manufacturer, Fujifilm Dimatix, to develop optimum ink chemistry for the printheads. As part of the design process, printhead jetting patterns are tailored to the ink to achieve the best performance and reliability.
Powerful handling systems

Very short runs and one-off jobs can be printed with manual loading and take-off, but a fast and powerful handling system is vital for Onset to perform to its full capacity for longer runs.

There are three automation options for Onset, from a semi-automatic (manual load and automatic take-off) configuration, to a fully automatic loading, take-off and stacking system designed specifically to handle difficult materials like unconditioned corrugated board.

3/4 semi-automatic handling  Fully automatic handling  Fully automatic handling for unconditioned corrugated board
**3/4 semi-automatic handling**

The 3/4 automation system lets you print single sheet, multiple sheet or double sided print in registration. The operator loads sheets onto a preload table and the system takes over the rest, stacking it on a pallet for easy removal of the printed stack. Best of all, the system allows the operator immediate, direct access to the bed and registration points for quick switch between manual and semi-automatic work.

**Fully automatic handling**

This fully automatic material loading system is designed to handle conditioned and dimensionally stable sheets. It works in conjunction with the 3/4 handling unit to provide full automation, handling multiple sheets with highly accurate registration. The loader can be moved away from the machine to allow access to the print bed.

**Fully automatic handling for unconditioned corrugated board**

This fully automatic handling system is designed for difficult materials like unconditioned corrugated board. Vacuum-to-vacuum transfer ensures precision handling, from the robotic arm pickup, to placement on the print bed and stacking of printed board.
The right partner for inkjet

Fujifilm is committed to the development of print solutions that meet the changing needs of the entire printing industry. As an established leading supplier in wide format inkjet printing, it is well positioned to meet the evolving needs of the corrugated printing industry with cutting-edge inkjet technologies:

- Fujifilm is the number one global patent holder for UV inkjet ink, and owns core printhead, ink and integration technology.
- Hundreds of Inca Onset printers have been installed globally since the launch of the first generation machine in 2007. Over 95% are still in operation today, proving the platform’s reliability for hundreds of print businesses.
- Fujifilm has a global distribution and support network with a massive installation base of products across the printing industry.

Please contact your local Fujifilm partner or visit www.powerofinkjet.com/corrugated

For further information:
- YouTube Fujifilm Print
- Twitter @FujifilmPrint

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