



Komori's Graphic Centre Europe in Utrecht will host an Open House for carton converters to see and compare jobs printed with offset and digital technology

KOMORI BRINGS CREATIVITY TO CARTON CONVERTING

WITH ITS IMPREMIA IS29 DIGITAL INKJET PRESS, AND THE SALES AND DISTRIBUTION RIGHTS IN EUROPE FOR HIGHCON'S RANGE OF DIGITAL CUTTING AND CREASING TECHNOLOGY, KOMORI HAS AN ATTRACTIVE ALTERNATIVE PACKAGE TO OFFER THE CARTON MARKET. NICK COOMBES REPORTS FROM ITS HQ IN UTRECHT.

Best known worldwide for its range of Lithrone sheet fed offset presses, that include the latest GL and GLX40 series for carton applications, Komori has launched into the market with a highly attractive combination of digital technology that will appeal to existing carton converters and to those for whom carton is not mainstream but for whom it could open significant opportunities in niche markets that are not necessarily in packaging.

With run lengths in many sectors of the carton market continuing to decline, digital production has its attractions – and not just for printing. There is little to be gained by utilising the capability of a digital press with its almost zero make-ready times and costs, merely to create a bottleneck downstream in the converting department. Now, Komori believes it has a solution for both parts of production.

The Komori Impremia IS29 is, as its name suggests, a 29" sheet fed press that fuses proven offset technology either side of a digital inkjet print engine. Sturdily engineered (it weighs in at 8000kg), the IS29 uses an adapted version of Lithrone feeder and delivery units to ensure that sheet transport is optimised and fully controlled throughout, making it a full functioning production tool for today's hardworking industrial environments.

Capable of handling a range of standard stocks from 0.06mm to 0.6mm (600-micron), and up to 0.45mm when printing duplex, the IS29 is capable of 3,000 sheets/hour working single-sided or 1,500 sheets/hour double-sided. It has a maximum sheet capability of 585 x 750mm and a minimum of 393 x

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545mm and can reproduce more than 85% of Pantone colours from its CMYK heads that use UV ink. This gives it a bigger colour gamut than offset and samples shown printed by both processes on identical stock actually favoured digital in terms of vibrancy and definition. Even flesh tones, so long the preserve of offset, were matched by the inkjet process.

Komori says it has developed the Impremia IS29 in response to the change in market demand that is being seen globally. Print-on-Demand, which began in the commercial market, has made the transition to packaging now that consumer buying habits reflect the impact of the Internet and social media. To respond to this, the company knew that only a fully-fledged industrial solution would work and with its wealth of printing press design experience and manufacturing expertise, the foundations were firmly laid.

Capable of printing a range of products from posters to short run carton packaging, and in between a host of promotional items and gift packs on difficult stocks like high relief embossed and canvas that an offset press could not touch, the IS29 brings the digital advantages of variable data and versioned printing that are so popular with Brand Managers for personalised promotions. Crucially, it requires no pre-preparation of the stock and owing to its LED-UV curing, printed products are available for immediate further processing.

The IS29 has Komori's KHS-AI next generation integrated control system that acts as a window linking the press

and software systems which can be of any proprietary brand. Linked to the Adobe RIP, which is automatically kept up to date within the maintenance programme to future-proof the investment, KHS-AI ensures smooth flow of data from origination to print production, which with short runs and variable images to handle, makes it easy to meet customer requirements. It offers automatic setting and control of sheet size and thickness, as well as stock grade and grain direction and has a self-diagnostic function to avoid stoppages.

Quick and easy to make-ready, the IS29 benefits from proven Komori technology for sheet travel. The printing drum has gripper bars positioned to ensure that there are always three sheets in process. The delivery unit is fitted with a device that presents a sheet from the print run in a separate tray on top of the unit to save the operator from pulling one from the stack. The machine is easy to maintain with programmed automatic cleaning cycles that can be added to by different levels of manual cleaning. Six times a year, a preventative maintenance programme is activated that includes cleaning filters, print heads and replacing any wear and tear parts – and the whole unit is reset for production. This applies particularly to the suction of the print drum, as maintaining the 1mm print gap is critical to print quality.

The press is fitted with a large ink chambers that can each hold 25 litres, or enough for around 10 shifts, or more, and these can be topped up on the run. By using an ink buffer



The Impremia IS29 is available for print trials on a variety of stocks



Operator Mischa van Hulst carrying out the simple start-up procedure

of 25 litres and the same stock as on a litho press, Komori can ensure the highest stability and accuracy in colour, making it ideal for proof prints and mock-ups. A Technotrans system is fitted for cooling of the UV ink and an automatic pump controls vacuum and compressed air, while a photo-spectrometer measures and monitors colour.

Komori has a growing number of Impremia IS29 press sales in Europe.

A report from one of these users will appear in a future issue of *Folding Carton Industry*. Applications vary from POS to traditional cartons, all produced in short runs at high quality. What is obvious, as one becomes familiar with its capabilities, is that the IS29 is not a replacement for an offset carton press. It offers a degree of capability that no analogue technique can match and that allows it to tap in to new and profitable niche

markets. Seen as a complementary process to offset, it is a sound investment for carton converters.

Cut and Crease

And, if the Impremia IS29 is a creative way forward for carton printing, the Highcon range of automatic digital cutting and creasing machines adds a new dimension in cartonboard engineering. Launched at Drupa in 2012, the Highcon Euclid was a world first. Now in its third generation, and joined by the higher speed Beam model, the Euclid III challenges product designers to convert their ideas into commercial reality.

The technology works in two stages – creasing and cutting. The creasing is based on Highcon’s patented DART (Digital Adhesive Rule Technology), which replaces traditional rule by writing them onto a foil. This can take as little

as 15 minutes and once achieved, production can begin with the digital rules matching job to substrate. The creased sheets then move to the cutting stage, which uses CO₂ lasers and optics to cut, perforate or etch. The system allows for both intricate cut-outs and last-minute changes.

Applications for the Highcon machines include variable data cutting and etching. This allows a range of varied products to be personalised or customised and have security devices applied. Optional modules include integrated digital stripping, the Axis software package that converts 2D to 3D and the Modelling package that allows 3D production at speeds and costs that were not previously possible.

Tech spec for the two models is very similar, apart from speed. The Euclid III is rated at 1,500 sheets/hour, while the Beam is capable of

up to 5,000 sheets/hour – but both are dependent on the job involved. The more intricate the design, the further the laser beam has to travel. Maximum format size is 760 x 1060mm and minimum is 320 x 457mm on the Euclid, and 500 x 700mm on the Beam. Both can handle cartonboard to 600-micron (Beam to 900-micron for cutting) as well as Microflute (N+F+G flute) and Corrugated (E-flute up to 2mm) on the Beam.

Komori is planning to host an Open House at its Utrecht facility later in 2018, when both Impremia IS29 and Highcon Euclid III technology will be on working display, along with its range of Lithrone offset presses. For carton converters looking to diversify their business model, and for commercial printers looking to tap into the non-packaging board market, this will be an ideal opportunity to evaluate the latest technology. ■



The latest Highcon Euclid III in Utrecht with samples of its highly individual work

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