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Expanding flexible packaging and label opportunities

The Sapphire EVO digital press utilizes Kodak Stream inkjet technology and is designed to offer new opportunities in the high-volume production market

Armin Karl Geiger

Uteco Group, in partnership with Kodak, has announced the commercial availability of the Sapphire EVO digital press. The use of environmentally friendly water-based inks allows packaging service providers and converters a digital offering particularly for food applications. But most importantly, the press addresses a wide range of low and high-volume applications without compromising on productivity or economics.

Since the introduction of its new line of Sapphire hybrid digital and analogic press for package printing, at drupa 2016, the Uteco Group has maintained a sustained interest in this new product line. In 2017, the company took the situation a step further by signing an agreement with Kodak. This resulted in the next step in the"EVOlution" of the Sapphire machine, the launch of the new Sapphire EVO. Using water-based inks, it offers new opportunities for brands and packaging service providers

Digital high-volume production

The Sapphire EVO brings digital printing to the production floor with capabilities of printing over 9,000 linear meters per hour, with compelling economics. Utilising Kodak Stream Inkjet Technology, it delivers high print quality on a variety of packaging film and paper substrates.

The Sapphire EVO uses media up to 650 mm (26") in width and prints to a repeat length of up to 622 mm (24") and offers CMYK

printing as well as options for inline priming and varnishing.

Aldo Peretti, CEO of the Uteco Group, comments: "Our customers have been asking for a digital production solution that meets their customers' demand for more versions, which is driving shorter run lengths, as well as an economic long-run digital solution. Uteco's in depth experience in flexo and gravure printing, film handling, coating and drying, coupled with Kodak's inkjet expertise, now allows us to deliver a device that combines the capabilities of flexo with digital."

Using environmentally friendly water-based inks to print on a variety of flexible substrates, including BOPP, PET and paper, Kodak's inks and pre-coating fluids used with the Sapphire EVO comply with regulatory requirements for indirect food contact in the EU and the US, as well as brand specific requirements and the EuPIA exclusion list.

Stefano Russo, COO of the Uteco Group, states: "As the demand for mass versioning and customization of packaging grows globally, hybrid flexo, gravure and digital printing is becoming a very important part of a packaging providers' offering. The combination of Uteco

The new Sapphire EVO hybrid digital and analogic press for package and label printing addresses a wide range of low and high-volume applications

and Kodak's technologies not only delivers a competitive option for digital short-run printing, but also competes in medium-long print runs. This makes the Sapphire EVO an ideal investment for both package and label print service providers alike"

The Kodak Stream technology

The Kodak Stream Inkjet Technology uses a different approach with no electrostatics. Instead it uses a proprietary method of inkjet printing based on thermal 'pinch-off' of continuously jetted fluid streams. By applying a regular pulse to heaters surrounding each nozzle orifice the ink is stimulated into breaking into fine droplets. Ink drops not required are deflected away from the substrate and re-circulated to the ink supply. Drop size and pinch-off is regulated by the time between heat pulses, thereby creating a variable drop size.

The Stream Technology provides a reliable, high-volume production system. The steady state ink flow provided by continuous inkjet prevents nozzle jet-outs and clogging. This technology creates uniform droplets with precise drop placement accuracy, due to high drop velocity generated through the nozzle under pressure. This allows the nozzle plate to be protected from the substrate, reducing sources of contamination that may decrease printhead life. This results in clear and crisp printout with no extraneous dots.

In addition to precise drop generation and print selection, achieving the highest level of image quality requires Kodak's proprietary micromilled pigment inks. These innovative pigments produce a consistent and narrow distribution of nanotechnology particle sizes compared to conventional pigments. Environmentally-friendly waterbased inks use these nanotechnology pigments to produce a colour gamut larger than offset inks. This is achieved through the transparency of the inks, which allows light transmittance reflecting from the substrate through the ink laydown. In addition, Kodak's pigment inks provide durability on the substrate, remain waterfast, and offers high and long-lasting colour fastness, which is of particular importance when producing items foroutdoor applications. Moreover, Kodak is developing pigmented inks to expand the colour gamut with up to seven colour stations for more demanding applications.

In addition, the Stream continuous inkjet technology is a "green," one and printhead refurbishment enables reuse of nearly all of the components in the assembly.

A versatile machine

Thanks to Kodak's Stream technology, the new Sapphire EVO will be capable of printing on plastic and non-plastic media at speeds of up to 300 m/min (984 fpm) with a maximum printing resolution of 600 x 900 dpi. The Stream software ensures uniform dot size and accurate ink transfer, regardless of the coverage or substrate being used. Water-based inks also guarantee a minimal environmental impact.

The EVO model features a patent pending hot air drying system and direct drive substrate handling. Customers can opt for a tailored hybrid configuration that allows for inline flexo and gravure printing with in-register reprint options, inline spot colour or OPV and inline lamination as well.

Finally, another aspect that should not be disregarded is the fact, that all models of the Uteco Sapphire product family are created according to the guidelines of Industry 4.0 and lean manufacturing. Sold worldwide, the Uteco Group will begin installation of the first unit in June 2018 at an Italian flexible packaging producer for the industrial and fashion industries.