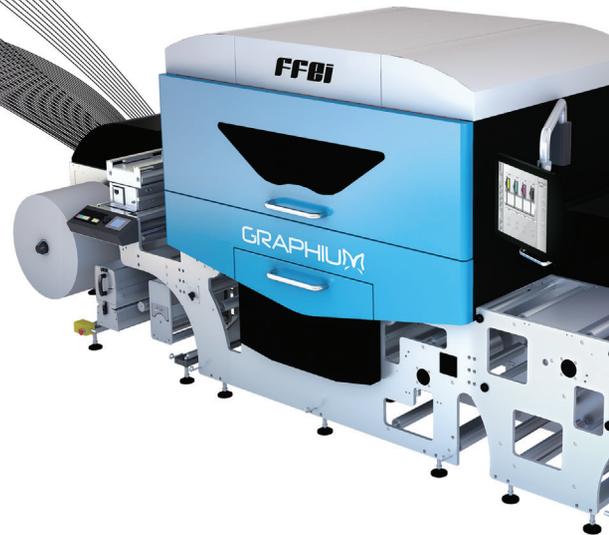



 GRAPHIUM®


# Graphium solutions for linerless label production



Having the ability to digitally print and convert ultra thin film media gives converters the opportunity of serving the growing trend towards linerless labels. In recent years the market has recognised the benefits of linerless labels. Not only do they reduce packaging waste through the supply chain but also can offer light weight alternatives to cardboard sleeves providing more labels per roll - ideal for high volume, high speed and automated packaging lines. Some substrates even match the material of the container they are applied to reducing mixed material recycling, others are bio degradable or even compostable.

Brand owners are seeing an increasing requirement to run continuous promotional campaigns, produce seasonal and regional variants and respond to markets more dynamically, forcing converters to provide smaller more frequent print runs. With more information required on labels the possibility of printing on both sides of the substrate is also very attractive to brands. To meet these opportunities, producing labels on a hybrid digital production system becomes essential.

## Linerless requirements

The Graphium hybrid digital inkjet press can be customised to meet the exact requirements needed for producing finished linerless labels.

Without the right technology ultrathin films can be highly problematic to convert. They are delicate and prone to stretching due to tension and heat from curing lamps - web wrinkles, bagginess, corrugations can make printing challenging. They often require very low operating tensions and driven chilled rollers to prevent distortion during curing.

Lamination and rewinding quality plays a critical role in how the label performs during application. Curling and delamination issues must be eliminated by regulating tension between substrate and laminate. Rewind tension must be consistent.

Digital VDP & Versioning



Real spot colours and inline lamination

Colour match between digital and flexo

Lower running cost via Hybrid

## Linerless options

- **Thin film Encoder**  
Provides perfect digital to flexo registration with thin films. This larger, low inertia carbon fibre encoder ensures quick response to any thin film substrate movement.
- **Spiral rollers**  
Prevent wrinkling, tearing, and web-breaks using thin films. These rollers feature a spiral groove which radiates from the centre of the web any creases that appear follow the path of the groove to the edge of the web.
- **Close loop tension control**  
The tension within a reel can often be higher towards the core. Graphium's closed loop system moderates the tension between the outfeed nip and the rewind ensuring the optimum tension is applied consistently through the roll.
- **Closed loop lamination**  
In order to prevent migration through setoff, lamination must be achieved inline. Closed loop lamination ensures the tension between reel of laminate and the substrate is consistent and a close match. This prevents two different tensions within the laminate itself causing a curling effect.
- **Driven chill rollers & LED curing**  
Chilled rollers and LED inter colour curing are standard on Graphium. Chill rollers are absolutely essential when working with heat sensitive filmic substrates. They cool the substrate during the UV curing process ensuring that X, Y distortion is eliminated.
- **Dynamic sync technology**  
Graphium's dynamic sync technology ensures a perfect fit between digital and flexo produced graphic elements, on a range of media. Graphium tracks pre-printed sync marks and automatically adjusts the digital image to fit flexo print. The dynamic sync technology also manages the issues encountered when pre-printed material changes when put under tension.
- **Automated flexo setup via Edale AIIR**  
Automated inking, impression and registration. AIIR relies on registration marks, which are printed on each station and read by the AVT Helios S camera. The corrections are sent to each print station to automatically control print impression, inking and cross register to ensure the highest print quality.
- **Ink reduction & colour management**  
Accurate colour handling across many substrates. Graphium's colour management system utilises the best of FFEI and Fujifilm technologies - ISO compliant CMYK, wide gamut spot colour management, ink saving, custom colour spaces and ink limiting for challenging substrates are all possible.
- **Lateral reversal & last down white**  
Allow print to be viewed through the substrate. In some non-laminated applications (shrink film or ROSO labels) or where it is preferable to print on a thicker film and laminate an ultra thin film (or number of films), reversing the print order is often required to mirror the print on clear substrates and then print white last.

Feature	Benefit
Carbon encoder upgrade	Lower inertia larger encoder provides faster response to web changes
Spiral rollers upgrade	Prevents creasing within the web
Closed loop tension control module	Improved rewinding of thin films and laminates.
Closed loop lamination module	Regulates web and laminate tensions to minimise curling and delamination
Driven chill rollers	Improved handling and curing of heat sensitive materials
Dynamic sync technology	Synchronisation of flexo and digital printing units and real-time repeat length correction of digital image for precision printing
Edale AIIR	Automatic Inking, Impression & Registration driven by AVT Helios
Last down digital white	Provides the option of switching substrate and laminate materials and digital print order for improved material handling and printing
Flexo White	Allows specialist white inks such as Fujifilm SLV White for shrink sleeve applications
Ink reduction	Limits ink use for thin film applications
Digital hybrid production	Provides benefits of digital combined with lower running cost and inline converting of traditional flexo
Turnbar	Allows back printing of the label
PDF/VT Variable data	Full colour variable data printing

Contact one of our Graphium specialists to find out more. Email: [graphium@ffe.co.uk](mailto:graphium@ffe.co.uk)



The Cube, Maylands Avenue, Hemel Hempstead, Herts, HP2 7DF, UK  
Tel: +44 (0)1442 213440 | email: [marketing.comms@ffe.co.uk](mailto:marketing.comms@ffe.co.uk) | Web: [www.ffe.co.uk](http://www.ffe.co.uk)

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