Advancing **slitting optimisation**

MD Bjorn Eugster – who has honed his technical knowledge by working his way up from electrical repairs apprentice to new business development and key account management – is passionate about service, fit-for-purpose solutions and ensuring that customers experience reduced disruptions due to breakdowns.

S & E Electronics has been servicing South Africa's packaging, print and converting industries with in-house electronic breakdowns and systems upgrades since 1978. Recently rebranded to Advanced Print Solutions (APS), the company has aligned its core business to focus on providing and installing a wide range of printing technologies that enhance and improve customers' production and quality.

APS is a leading supplier of top European machine manufacturers and prides itself on service excellence and on-going support. APS has been the sole sales and service partner for German-based Erhardt + Leimer (paper/plastics and film division) and ENULEC Electrostatics for 18 and 10 years, respectively. Italian-based Selectra's range of technologically-advanced systems for the control of printing presses and converting equipment is also part of the APS portfolio.

The most recent, highly complementary addition to APS' growing list of principals is SP Ultraflex Systems, a supplier of slitting-rewinding equipment. 'Manufactured to world-class standards, in an ISO 9000-accredited plant in Maharashtra, India, these machines offer cost-effective and reliable performance to several global converters,' Bjorn states.

The partnership – which covers installation, commissioning, and service interventions by APS – was initiated 18 months ago after an alignment of business philosophies and common goal to grow the brand from strength to strength in South Africa brought them together.

MD Bjorn Eugster reports: 'Although the partnership was formed during the Covid-19 outbreak and lockdown, we are thrilled to have secured an order for two slitter-rewinders for a Johannesburg-based converter, which has made significant capital equipment investments over the past 24 months. More details to about this installation will follow in a future issue of PPM.'

1. Automatic job set-up

Job set-up on a converting slitter-rewinder is about aligning multiple cutters and cores to the package design. The Roboslit plus model features an automatic job set-up to carry out this repetitive task quickly and with minimum passage of substrate, enabling the operator to slit and rewind in register within the first few metres of a new job.

This user-friendly feature is also offered as an option on the Roboslit OHP and FSU models to enable faster set-ups and reduced wastage. These benefits add up to a quicker return on investment.

APS will also create a spare parts stock point at its warehouse to keep lead times to a minimum and ensure smooth and uninterrupted customer converting performance.

According to managing director Biku Kohli, since its inception in 1985, SP Ultraflex Systems has played a significant role in the evolution of slitter-rewinder designs in the South East Asian market so that the speeds, drives, changeover mechanisms and material handling options keep pace with developments in related printing, lamination and packaging equipment.

As a forward-thinking slitting and rewinding specialist, SP Ultraflex has developed eight automation and material handling features to boost productivity and efficiencies: automatic job set-up, cutter/core positioning and off-loading; servo-positioned web guides; end-to-end material handling; electro-mechanical floor lifts and motorised ejectors.

2. Servo-positioned web guide

Based on the job data provided to the PLC under the recipe option, a ball screw coupled to a servo motor moves the web guide sensor to the appropriate position. This position serves as a reference for the cutter and core positioning mechanisms described below.

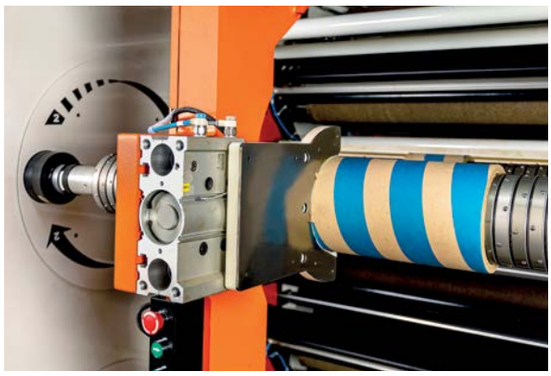
3. Automatic cutter positioning

In the air cut mode, the razor holders (collectively mounted on an air shaft as shown here) are brought to their respective positions one after the other – either manually under assistance of a servo-driven travelling laser on the semi-automatic model, or through a pick and place device on the fully-automatic model.

The travelling laser also positions the bottom knives on the bottom shaft on the semi-automatic version, whereas an independent pick and place device carries out this operation on the fully-automatic model.

4. Automatic core positioning

Depending on the level of automation selected, the cores at the rewind are positioned via the reference of travelling lasers or via travelling pneumatically-actuated core locators, which define the correct position of each successive core.



5. End-to-end material handling

SP Ultraflex offers a host of integrated material handling solutions to reduce the time and effort required for operators to handle unwound and finished reels. This helps to prevent operator fatigue – the primary cause for declining shift productivity and toll-taker on human alertness, which raises safety concerns and increases the likelihood of mishaps.

6. Electro-mechanical floor lift

The floor lift mechanism in SP slitters is powered by a pair of jack screws, driven by a geared motor. The complete absence of hydraulics makes the operation safer, cleaner, maintenance-free, and compliant with the hygiene standards mandated for secondary packaging processes.

The mechanism's linear and vertical movements make the reel loading process more convenient compared to the angular trajectory of most conventional floor lifts.

7. Motorised ejector

The cantilevered design of converting slitters presents a challenge when offloading rewind reels that exceed certain diameters. Most SP Ultraflex slitters can be equipped with motorised ejectors to displace the rewind reels to the offloader, reducing operator fatigue.

8. Automatic offloader

SP slitters can be equipped with an automatic offloader that rotates the arms to a horizontal position for removal.

Additionally, a secondary ejector can be provided on the offloader – as an interface to a finished reel handling system – to transfer the reels onto a conveyor belt.