

Temac enhances slitter rewinder performance with next-generation tension control systems

Precise tension control and advanced AC motor systems boost quality, productivity, and efficiency in flexible packaging film converting.

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[Temac](#), a leading Italian manufacturer of slitter rewinders and special machines, announces significant advancements in web tension management for packaging and converting applications. The company's

latest innovations ensure superior performance in processing flexible packaging materials such as BOPP, OPP, CPP, PET, PVC, LDPE, HDPE, paper, and multilayer laminates including PET + ALU + LDPE.

During both unwinding and rewinding operations, precise web tension is critical to achieving defect-free, uniform reels. Temac's engineering solutions guarantee optimal control throughout the entire process, from the mother roll to the finished reel.

Optimized Unwinding with Servo Motor Technology

In its slitter rewinders, Temac integrates a dedicated servo motor on the unwind section—an asynchronous A.C. vector motor managed by a digital inverter—ensuring highly accurate automatic tension management. Unlike traditional systems that rely solely on pneumatic brakes, Temac's servo motor operates as an additional drive motor, complementing the draw and rewind motors. This configuration delivers precise control directly from the machine's PLC with minimal response time and without operator intervention.

The pneumatic brake remains part of the system but is dedicated exclusively to emergency or power outage scenarios, reducing wear and extending component life. Moreover, the servo motor provides energy regeneration, significantly lowering energy waste and minimizing particulate emissions caused by brake pad wear.

Advantages of the Independent Shaftless Unwind Carriage



The independent unwind configuration typical of SRP models offers several key benefits, including:

- Improved accessibility to slitting stations for easier replacement or repositioning of knives in case of wear or damage;
- Aerial film passage bridge included as standard;
- Integrated film splicing table on the unwind unit—an important feature when perfect splices are required between film reels being loaded onto the machine;
- Vibration sources are naturally isolated from the machine body, enhancing operational stability.

High-Performance Friction Shafts for Perfect Rewinding

Another critical element in maintaining consistent web tension is the rewind shaft, which must be equipped with next-generation friction technology.

Temac's slitter rewinders are fitted with friction shafts featuring newly patented rings mounted on ball bearings, which significantly reduce the inertia during engagement and anchoring phases.

These rings are also extremely lightweight, being manufactured from a special aerospace-grade aluminum alloy with an anti-wear heat treatment. Each ring weighs exactly one-third of its traditional steel counterpart.

The reduced weight is particularly beneficial during shaft core size changes (e.g., from 70 mm to 76.2 mm and vice versa), facilitating easier handling and positioning.

This translates into exceptionally low inertia, making these friction rings highly efficient and delivering outstanding tension control over processed materials.

With these advancements, Temac reinforces its leadership in film processing technology. Its focus on precision, efficiency, and operator-friendly design ensures customers achieve maximum performance in flexible packaging production.

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