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Industry Notification - Packaging Industry

High-Speed Laminating Machine Solution

IABG Global Solution Center

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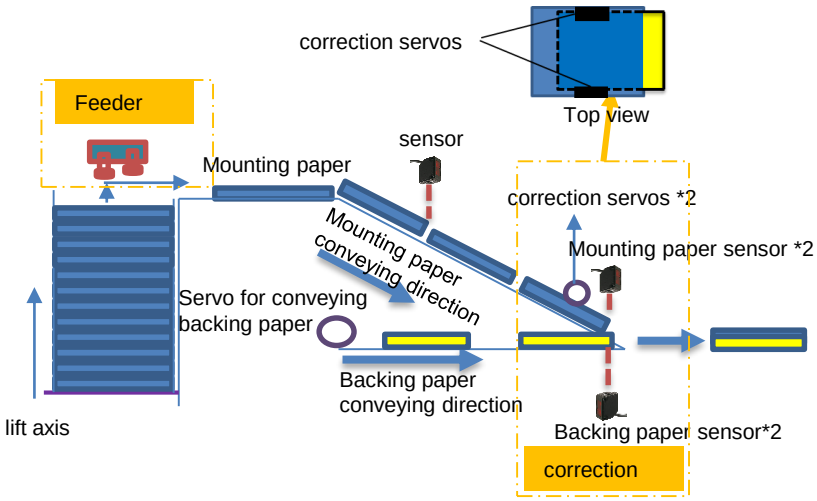
Introduction

The laminating machine is used in paper production industry. It laminates two pieces of paper together, which plays a key role in the production of cartons. It consists of paper feeding unit, mounting unit and pressing unit, enabling automatic paper feeding, automatic correction, automatic slitting, magnetic powder tension control, specific pneumatic film spreading and automatic constant temperature control via hot air blowing.

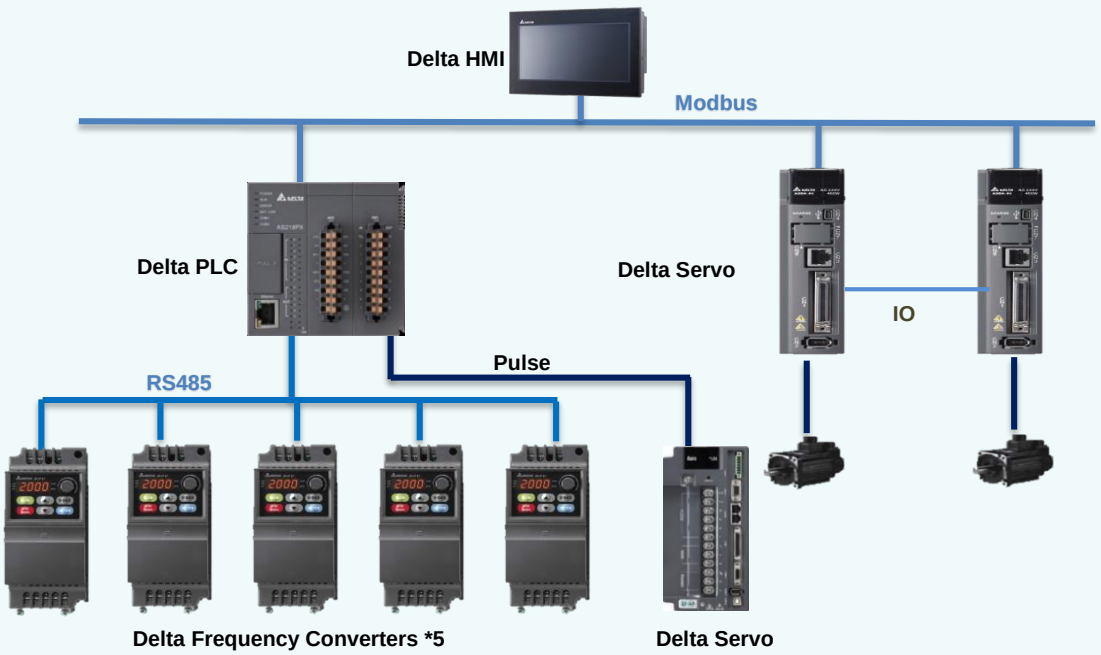
Usually, there are semi-auto “sheet-to-sheet” laminating machine (used for single-sided cardboard laminating, local and integral laminating, chip board local and integral laminating, double-sided label enclosing and punching) and collaborative laminating machine specially designed for short corrugate of narrow paper.



Process

- The laminating machine laminates the backing paper and mounting paper together. Firstly, the mounting paper is placed on the lift axis, and the feeder starts DI detection. In case that no mounting paper is detected, the lift axis moves up to ensure the feeder can catch the mounting paper. Then the feeder delivers the mounting paper to the belt driven by the main axis.
- Space the mounting paper: It separates the mounting paper with the same distance by the difference between the feeding speed and main belt speed, and drives towards the correction axis.
- Correction of mounting paper: Once the mounting paper passes through the backing paper feeding DI, it feeds a piece of backing paper. Inclination difference between the mounting paper and backing paper can be detected by 4 photoelectric sensors. The left and right correction axis make compensation to the mounting paper’s difference to align it with the backing paper.

Solution Architecture



Features and Advantages

Anti-Interference

- Servo drive integrated ASD-A3 enables quick response and better anti-interference capability comparing with pulse-type or bus.

Smart Programming Language

- ASD-A3 controller is designed as an integrated drive-control system with built-in PLC programs for efficient logic and motion control.
- Do not allow program uploading to prevent programs from being stolen.
- Use Delta's proprietary MSM programming language for custom development platform to prevent programs from being decoded.

High Speed and High Accuracy Processing

- High speed DI up to 5us for more accurate data capture.
- Program's built-in anti-interference high-speed capture algorithm to reduce capture errors.

Efficient and Stable Production

- Offer a production accuracy up to ±0.5mm and an operating speed up to 130m/min.
- Display device correction data on HMI for easier monitoring.

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