Inline sheet inspection for maximum security in the printing process

Topmost quality calls for an ultra-precise checking system. Even the smallest of printing errors can incur large-scale costs, as well as damaging a print shop’s reputation. Especially packaging printing for pharmaceutical or brand products, label printing and printing security documents demand a production process that is not only rock-solid and reliable but delivers maximum quality. Operating successfully in these segments requires an automated and objective quality inspection system that can keep pace with the increased production speeds of the new generation of presses and offers far more options than manual quality assurance methods.

Designed for the Speedmaster® XL 106 and Speedmaster CX 102 series, the Prinect® Inspection Control inline sheet inspection system seamlessly controls and documents the entire print run. The automated early warning system ensures the maximum possible security in the print process – at any speed. Prinect Inspection Control identifies and reports print errors before they can generate any follow-up costs. This puts an end to costly, manual quality assurance measures or expensive reprinting of the entire print run due to minor printing errors.

Every sheet is inspected inline • Once the image area to be inspected has been defined in setup mode, the digital reference sheet is automatically created and stored by Prinect Inspection Control when OK sheet production begins. This process takes place inline and is extremely fast. Prinect Inspection Control compares each print sheet with this reference sheet and alerts the printer as soon as print errors have been detected. If the system identifies a flaw, a tab inserter integrated into the delivery automatically marks the beginning and end of the defective sheet.
Perfect sheet inspection integrated into the coating unit • The incorporation of two color cameras together with the illumination unit directly in the coating unit is not only an impressive technical achievement but is also highly efficient. The inline inspection system is fully integrated into the coating unit and features an exceptionally low-vibration design. This ensures the best conditions for a consistently high standard of inspection. The fact that both cameras are fitted very close to the printing nip allows constant control of all moving printed sheets right up to the trailing edge at full production speed and with highly efficient inspection results. The blast-air-supported sheet travel keeps the sheet reliably under control even at high speed.

Two cameras see more than one • Its two high-resolution RGB cameras make this system four times more sensitive than other systems (twice as sensitive for sheet length and sheet width respectively). The resulting resolution of 0.25 mm × 0.25 mm (0.01 in × 0.01 in) divides a 1050 mm × 740 mm-format sheet (41.34 in × 29.13 in) into 12 million pixels per color channel. At a maximum press speed of 18,000 sheets per hour, 180 million pixels are compared per second on the Speedmaster XL 106. Even the most minor print errors such as hiccups, missing print, streaks and scratches are reliably and quickly detected. Typical errors such as color deviations, scumming and smudging can be dealt with as soon as they occur.

Convenient sheet control on the Prinect Press Center • Prinect Inspection Control continuously forwards the results of its inspections to the Prinect Press Center™ press control station. The cutting-edge image processing software displays the errors in the sheet clearly in an enlarged view on the large Wallscreen, ensuring ideal conditions for rapid error analysis and assessment by the printer. All other operating functions can also be controlled via the Prinect Press Center Wallscreen. These include setting multiple inspection areas, the overview and zoom function and the error history using thumbnails. The option for choosing between five tolerance levels means inspection quality can be perfectly geared to different customer requirements.

Proof of quality at the touch of a button • The integrated reporting function offers seamless documentation of the entire print run. An authoritative proof of quality is generated for every inspection. This can be archived via the network and printed out at any time from any network PC. This means complaints can be traced even years later. The quality of the supplier’s printing stock can also be assessed and any complaint-related costs justified.

Presetting the system from prepress • As an option, data from prepress can be used to preset inspection areas and tolerance levels in the system. In using, for instance, the die cutting contour, only print errors located in the blanks are detected. This limits the warnings to customer-relevant print flaws and tabs only these errors in the delivery pile. In addition, this eases the setup process and cuts makeready time significantly.

Key functions and benefits at a glance:
• Tailor-made solution for packaging and label printing
• Fast and early detection of print errors
• Seamless quality control and documentation of the entire print run
• Presetting data from prepress
• Far fewer manual inspection tasks for the printer
• Reduction in waste and surplus printing stock during the print run
• Reduction in costs relating to quality or complaints
• Sales argument for winning new customers and orders
• Strengthens customer loyalty

The Wallscreen makes sheet control and system operation extremely user-friendly.