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Trusting Is Good – Monitoring Is Better! Quality assurance with MMVision

Have you ever received customer complaints because of incorrectly cased books? I see this error occur time and again with my customers when manual interventions are required during various stages of the casing process.

A typical example occurs during production of the book case when the placement of the book case is (unintentionally) changed in the stack following quality checks or manual counting processes. As a result, the error cannot be detected visually and the stack is inserted into the gathering tray of the bookline with the incorrectly positioned case. The product is then inevitably wrongly inserted in the case without any further checks to ensure the correct positioning.

Another problem arises during the processing of case motifs that are difficult to distinguish visually. There is a risk under certain circumstances that some or all of the stack will be inserted in the gathering tray incorrectly. Consequently, a number of book blocks will be wrongly inserted in the book cases and, in the worst case, delivered that way. Orders delivered this way inevitably result in customer complaints – and given the cost pressure and tight margins for bookbinders, this is a scenario that should be avoided at all costs.

In these situations, the newly developed MMVision position control system can help. It offers the ideal quality check for the Diamant MC bookline by closely monitoring the process to ensure correct case positioning right before initial contact with the book block. Immediately



following case separation from the gathering tray, a high-resolution camera uses image matching to check the positioning of the book case. At the start of the order, the first two book cases that are separated from the gathering tray are used as a reference to match the images. The image captured by the camera is displayed to the operator in real time on the separate MMVision monitor alongside the Diamant MC tele-commander.



If an error occurs and a book case is identified as being positioned incorrectly, the machine will stop and the monitor will display a clear error message for the operator. The case can be removed from the case forming station by the operator or moved into the correct position.

With MMVision, the correct position of the book block can also be monitored and secured in the infeed area of the Diamant MC bookline. Here, too, the high-resolution camera monitors the process, recognizing the head markings of the block on the side fold of the liner by matching the images. If the marking is not recognized, the conveyor belt stops, the bookline continues producing and the operator can remove or correct the block. During this process, the block position of each individual block is displayed in real time on the MMVision monitor.



The MMVision control system can be equipped with as many as five cameras in various places on the production line. All images from the cameras placed on the production line are displayed on the operator's monitor, making it possible to respond quickly or make corrections, if necessary, and avoid production mistakes.

Several users who have been working with MMVision on Diamant MC booklines have been impressed by the reliability of the control system, even when working with very complex case motifs, such as relief printing or unicolor printed motifs with color contrasts that are difficult to detect. Wouldn't you like to try MMVision as well in order to reduce customer complaints?

Moreover, MMVision can be retrofitted on all Diamant MC booklines built in 2008 or later as well as on Kolbus BF 513, BF 530 and EMP 513 booklines on request.

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