White-Paper-Solution Kern 996
Function Description

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The Kern 996 high-speed cutter automatically detects blank white paper zones and systematically cuts them out. This optimizes further processing and increases efficiency.

A sudden print abort can pose a problem during continuous processing with inkjet printing systems. Sometimes documents are only partially printed or the printer cannot print while stopped or restarted.

The latter means a lengthier wait without print and documents could perhaps be unformatted.

Differentation

Zones which are not printed with live data can be classified into three different categories:

- Leading and trailing sheets

  These sheets are formatted, can be synchronized and have specific reading information. They usually mark the beginning and the end of a job and they significantly improve machine handling.

- Blank sheets

  These sheets are formatted and they can be synchronized. However, these do often contain a form; have no specific content and no reading information. All of Kern's continuous feeds allow processing of blank sheets. Just like leading and trailing sheets, these are usually moved into a target bin.

- White-Paper-Zones

  These blank White-Paper-Zones are mostly unformatted. They cannot be synchronized and they do not contain reading information. The lack of these three characteristics significantly complicates fully automatic processing. White-Paper-Zones occur mainly with inkjet printing systems and they can reach a considerable length. Such print aborts can reach lengths of up to 40 meters.

The "White-Paper-Processing" functions of the Kern 996

Standard peripheral devices can bridge these longer stretches of print aborts by separating the paper web, removing the residual paper from the cutter, unwinding white paper zones from the roll and finally by inserting the paper web back in the cutter. This takes significant effort.

The Kern 996 offers the following solutions to simplify this process. These are subject to a license and must fulfill some requirements:

- Manual White-Paper-Mode

  During normal production, the system stops if a synchronization or reading error is recognized. The operator checks the situation and decides whether the system stop relates to a badly read synchronization or reading information, which allows the process to continue, or whether a White-Paper-Zone has triggered the error.
  If the operator selects the function "White-Paper-Processing", then the first four meters of the paper web and the usual cleaning cycles of the printing system are ignored.

  Subsequently the print recognition sensor is activated and the white paper stretch is processed. Documents which are not part of the production are grouped, transported through the system, put in envelopes and then diverted to test or collator bin at the exit. However, the optional GT grouping and diverting station can divert them to a bin directly after the cutter. This saves envelopes and the time it takes to empty the diverter bin.

  The print recognition sensor recognizes the end of the white paper zone and the system is stopped. The operator separates the paper web at the edge of the sheet and acknowledges it. The cutter is cleared and the white paper mode terminated.
  After reinserting the paper, the system is ready for normal operation.

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Function Description **White-Paper-Solution**

Semi-automatic white paper mode

The steps with the semi-automatic white paper mode are nearly the same as with the manual white paper mode.

Once the end of the white paper zone is indicated to the operator, he does not have to re-insert the paper web but only select a defined reference position on the touchscreen – typically the edge of the sheet.

Consequently, the position of the cutting mark is checked and the paper is transported automatically into the transverse separator. The portions of the paper which correspond to whole documents will continue to be transported or diverted to the GT grouping and diverting station. The remaining portions are cut by the transverse separator into short paper strips, similar to intermediate cuts.

In addition, the operator can intervene to make specific corrections. After this last step, the cutter is ready for normal operation.

Kern 996 requirement for the function White-Paper-Processing

- The appropriate license must be obtained for the Kern 996 white paper mode.

- The synchronization option, which corresponds to the specification for synchronization marks, is required. The synchronization option, which corresponds to the specification for synchronization marks, is required. Synchronization of perforated edges is **not** supported. (It is mandatory to comply with the specification for the synchronization marks. This applies particularly to the synchronization in the transverse separator for the semi-automatic white paper mode.)

- The white paper length must be at least 4 meters. Otherwise, the documents would get lost.
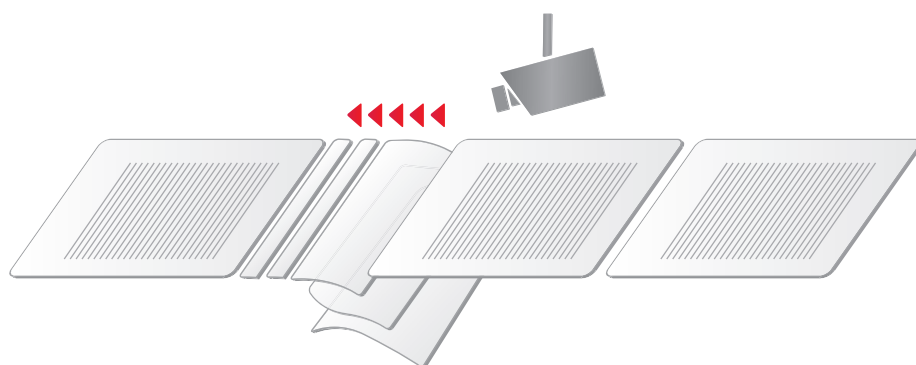
Optimization options for White-Paper-Processing

- The use of the optional GT grouping and diverting station has the advantage that while processing the white paper zone, the cutter works independently of the restrictions of the subsequent module (e.g. intermediary fold counter) and the true waste material is not transported through the entire system to the diverter bins. With the optional grouping table and the semi-automatic white paper mode, production is interrupted for less than 2 minutes if the white paper zone is 40 meters in length.

- It can be assumed that a certain number of duplicates are printed after a print abort. This can easily be recognized and controlled with a mail*Factory*® solution.

Additional options to process white paper

- The GT grouping and diverting station is required in order to divert immediately after the Kern 996 cutter. Thereby the transport of documents in the White-Paper-Zone and other nonproductive documents to the control or deviation bins, becomes unnecessary.

- The number of well printed documents which are marked for diversion can be reduced by recognizing the end of the white paper zone as early as possible and by stopping the paper feed earlier. We offer an optional print recognition sensor for this purpose, which will be installed in the in-feed area of the cutter.

- If the print is processed face down, the reference position is barely visible. Optional lighting can make the print visible through the paper. This allows for easy and safe return to the reference position.