Kern CS
Card Sorter

The ideal system for multi-item card storage and sorting.

Card industry trend evidences the proliferation of more type of cards and small sized job batches. These are to be prepared rapidly and efficiently for further processing, without downtimes, additional costs and human errors.

Manual preparation with high labor costs and low efficiency does not satisfy production demand. Difficulty increases when sorting cards with minor differences, like face value or chip data.

The Kern CS Card Sorter is the best solution to such needs, an advanced design for all end users who handle consistent type of cards giving a valid solution in daily preparation of small batches.

Its function is to load cards, identify each piece and store it in a dedicated slot. Cards are then retrieved and ordered in the right sequence per job, type and quantity, guided by a control

file. Same batch cards ends into same collecting tray, generating automatically logs and card missing information. Operators have only to put the right quantity of cards per type. This stops multiple and time consuming manual preparations, affecting productivity downstream.

The system has three main subsets:

Card input: equipped with different card recognition, hosts selective spinners to rotate card in correct position for storage and processing. Card feeder has a reader to detect separators for card type and/or job.

Card storage: Horizontal table of multiple slots each holding vertically one card. Capacity of 1.528 pcs for a total of 3.056.

Card output: There are 2 or more removable card trays, each with a storage capacity of 500 sorted units.

Our Services

- Personal consulting on site
- Requirement analysis
- Working out an optimal solution
- System integration
- On-site training of your employees
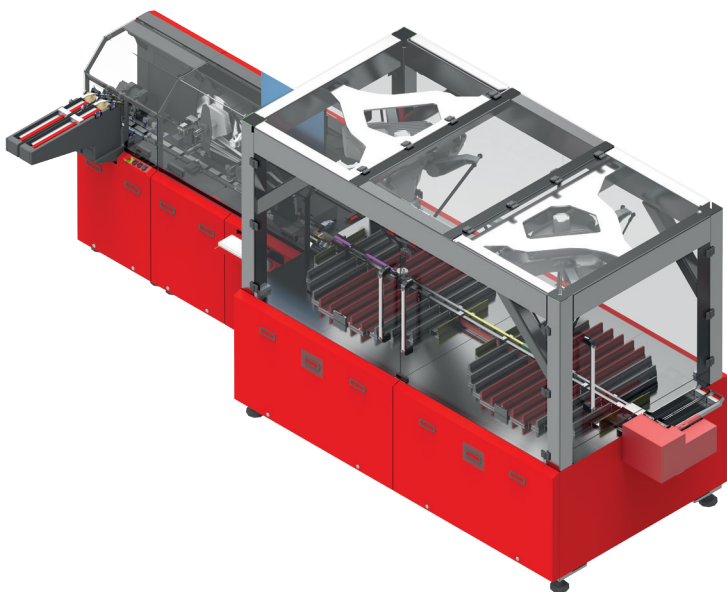- Comprehensive Support during the operational phase

Fast and accurate, the system can be configured to one's sorting needs. System is scalable adding further card feeders, storage units and output trays.

Windows based **Card Sorter Manager** makes card delivery userfriendly, reliable and secure. It keeps constant counting and tracking to ensure maximum integrity. Each movement is promptly recorded for real time update (inventory, allo- cations, availability and indications for refilling.
Stand-alone Kern CS interfaces with the K90 range, exchanging data on jobs. Output trays can be card hopper on the affixing/mailing system saving time on reloads.

Features

- Card size: ISO/IEC 7810 ID-1 (0.4 to 0.8 mm)
- Card material: PC,PET, PVC,ABS, PET other composite materials (carton material subject to vision)
- Card readers: Magstripe, Bar code, Data Matrix, OCR, contact and contactless chip
- Card feeder capacity: 800 mm
- Card slot thickness: 6.2 mm
- Card storage capacity: 1.528 pcs per each table 3.056 pcs total
- Card output stack capacity: 500 cards per tray (0.76 mm thick)
- Speed: up to max. 6.000 cards/h average 3.000 cards/h input/output
- System dimension (2 robots): 5.235×1.580×2.260 mm
- Electricity power (2 robots): 10 Kw
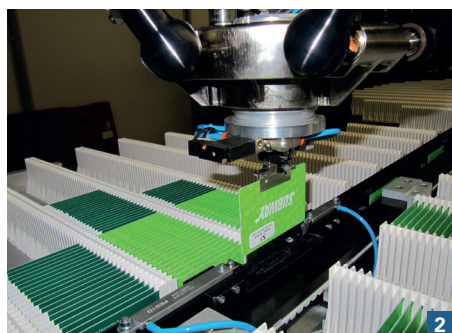- Air consumption (2 robots): 300 nl/min.

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Additional to the system **Kern CS Card Sorter**

1 Card input line
- High capacity 800mm card hopper.
- Top load, bottom picking.
- Vacuum suction with pushing mechanism.
- Stack level control and "near to empty" notice.
- Card reader to detect batch separator.
- 19 steps rail carriage.
- Various card type handling: flat, embossed, transparent 180° rotary spinners for correct card positioning (horizontal and vertical).
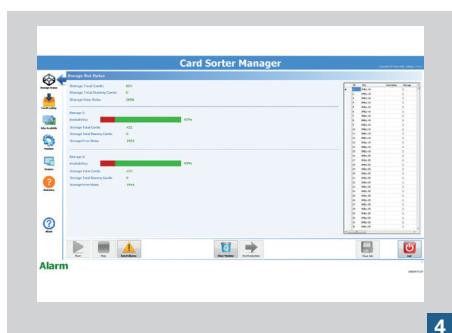- Double feed detection.
- Card readers available on request.
- Contact/less chip reading module compatibility ISO/IEC 7816 (contact) compatibility ISO/IEC 14443-1 (contactless).
- Magnetic stripe compatibility: ISO7811-2 (LOCO) ISO 7811-6 (HICO)
- Tele-camera vision recognition.
- Advanced OCR technologies provide barcode, data matrix and character recognition.
- Laser scanner to detect main type of bar code and data-matrix.

2 Card storage
- 26 steps vertical carriage line, delicate handling input/output of cards.
- Horizontal circular storage module, made of 4mm thick smooth ABS slots, each to host vertically one card.
- Storage up to 1528 cards per module. Option to integrate further modules.
- Two large card reject boxes per each module, in case of non reading or not belonging to job.
- High speed pick and place by four arms Delta robot by Omron/Adept specifically designed for high speed picking of card with dedicated gripper.
- Easy setting and calibration.
- Accurate repetitiveness of ± 0.10mm.
- Possibility to rotate from 0 to 360°.
- Overhead mounting and embedded controls to reduce space and foot print.

3 Output
- Series of two parallel trays to vertically collect the sorted cards.
- 500 cards capacity per tray (flat cards).
- Possibility to work in flip flop mode.
- Modular configuration to add on further trays (two or more).
- Removable tray can be placed on Kern card affixing /mailing system (K90/K91) as card feeding hoppers, with time saving on manual reloading.

4 Software operating/control system
- Card Sorter Manager is the Windows based package that loads and sorts all cards by recognized data which is fed back by different modules.
- All sorting parameters can be customized according to customer's requirements.
- Day to day running of the system is facilitated with a clearly structured user friendly interface. Operators are guided step by step in job set up.
- Images, graphics, and reports are provided on two screens for rapid vision and knowledge as well as quick and precise intervention in case of necessity.

5 System structure
- Strong construction for continuous intense working.
- Solid metal framing with anti-scratch epoxidic paint.
- Ergonomic working height with adjustable feet height for optimized ground levelling.
- Vertical removable front panels for easy access to inner components.
- Transparent cover panels equipped with micro switches for operator security and restriction on working area.