

# CM450A

## Automatic Case Maker



# CM450A

## Cardboard Case Making Machine

### 二、 System composition

Product name: automatic case maker ( known as: Cardboard Case Making Machine)

Model: CM450A



### 1、 Main accessories:

- ◆ PLC system: Japan OMRON PLC system
  - ◆ Transmission system: Taiwan Intime
  - ◆ Low voltage electrical components: France SCHENIDER
  - ◆ Frequency Converter: France SCHNEIDER
  - ◆ Pneumatic components: Japan SMC
  - ◆ Photoelectric color standard element: Germany SICK
  - ◆ Ultrasonic double sheet test: Germany PEPPERL+FUCHS
  - ◆ Conveyor Belt: Switzerland HABASIT
  - ◆ Servo motor: Japan OMRON
  - ◆ Timing belt: Germany CONTIECH
  - ◆ Reducer motor: Taiwan Eastern calendar
  - ◆ Bearings: imported NSK bearings
  - ◆ gumming roller: Stainless steel chrome plating (new technology)
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- ◆ Other accessories: ORION vacuum pump

## 2、Basic Functions:

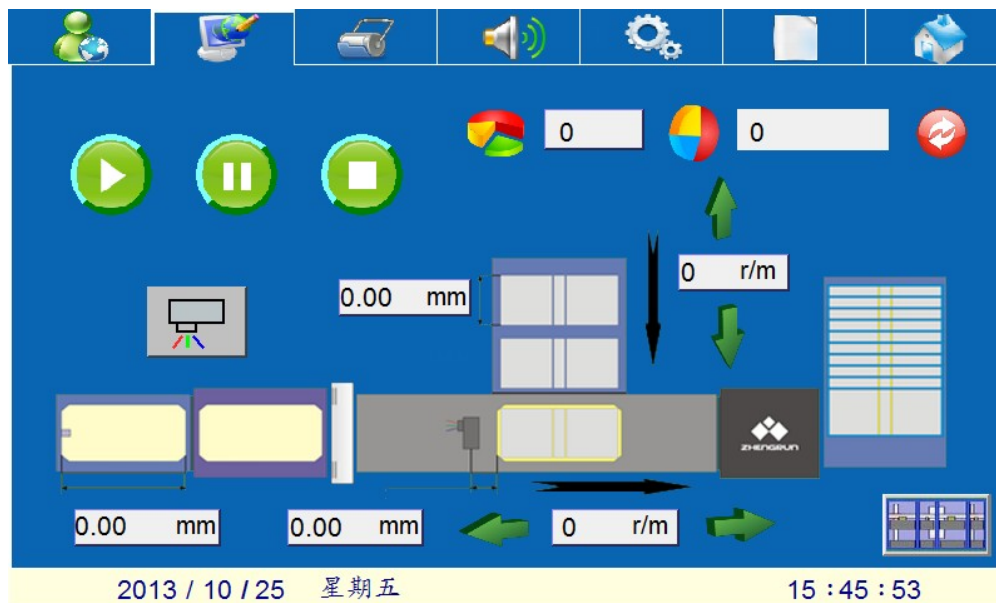
(1) Automatic delivery of paper glue

(2) Cardboard automatic transmission positioning fit

(3) Four edges folding edge molding (folding shaped cover)

(4) Friendly graphical man-machine interface, all the failure of the computer are displayed

(5) The integrated safety cover is designed according to the European CE standard, which is safer and more humanized



## 3、Functional features:

(1) Glue section of paper:

- ◆ Full pneumatic Feeder: simple structure, convenient operation, novel design, PLC control, accurate action (is the first in China, is my company's invention patent)

- ◆ Paper conveying adopts ultrasonic double sheet paper detection device

- ◆ Paper rectifying device ensures that paper does not deviate after gluing



- ◆ The upper cots are all made of stainless steel chrome-plated rollers with fine grinding, and the wire contact scraper is more durable



- ◆ The rubber barrel has constant temperature heating, filtering, circulating glue, and automatic mixing device

- ◆ Quick switch valve, roller cleaning only 3-5 minutes

(2) Cardboard conveying department:

- ◆ Cardboard conveying adopts the bottom extraction structure, in the case of machine non-stop, can add cardboard at any time



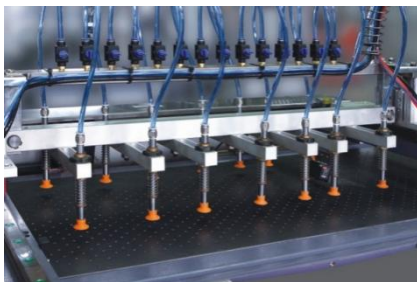
- ◆ When the cardboard is missing, there is an automatic detection device (when sending several pieces of cardboard at the same time, less than one or several pieces of cardboard, the machine will stop and alarm)

(3) Position fitting part:

- ◆ The surface paper conveyor adopts servo motor drive, high precision photoelectric positioning.

- ◆ The conveyor belt is equipped with a high-power suction fan, so that the face paper can be smoothly adsorbed on the conveyor belt

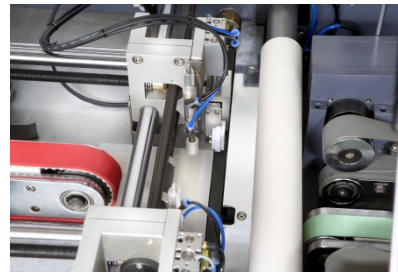
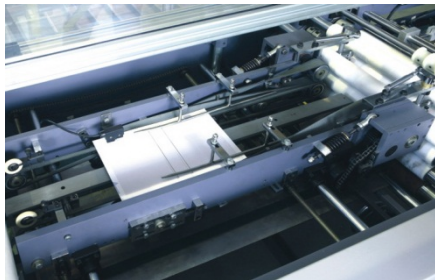
- ◆ Cardboard conveyor using servo motor transmission



- ◆ Online action is controlled by PLC.
- ◆ A pre - pressing roller is arranged above the conveyor belt to keep the cardboard and face paper in the fold before the first fit

(4) Fold edges on four sides:

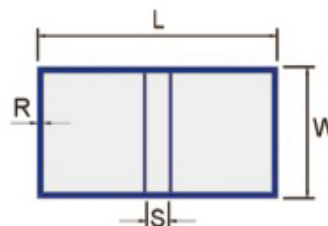
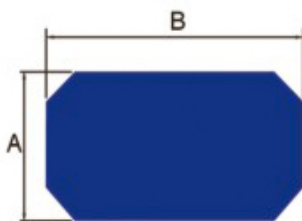
- ◆ The left and right sides are folded with sheet base band
- ◆ The fold part adopts front and rear split double drive servo motor conveying, synchronous no displacement, no scratch
- ◆ The new Angle device, can make the folding effect is more ideal



- ◆ Pneumatic structure is used to wrap the edge, shaped cover can be made
- ◆ Pneumatic adjustment of hem pressure is convenient and fast
- ◆ Non-adhesive Teflon rollers were used for multi-layer flattening



### 三、 Technical parameters



	Automatic case maker	CM450A
1	Paper size(AxB)	MIN: 130x230mm MAX: 480x830mm
2	Paper thickness	100~300g/m <sup>2</sup>

3	Cardboard thickness (T)	1~3mm
4	Finished size (W×L)	MIN: 100×200mm MAX: 450×800mm
5	Min.spine width (S)	10mm
6	Folded paper size (R)	10~18mm
7	Cardboard qty.	6pieces
8	Precision	±0.10mm
9	Speed	≅ 38sheets/min
10	Motor power	12kw/380v 3phase
11	Electric heating power	10kw
12	Air supply	30L/min 0.6Mpa
12	Machine weight	3500kg
13	Machine dimension (L×W×H)	L7700×W2200×H1700mm

**Note:**

◆ The max. and min. size of the cover depends on both the maximum and minimum size of the face paper and the quality of the face paper

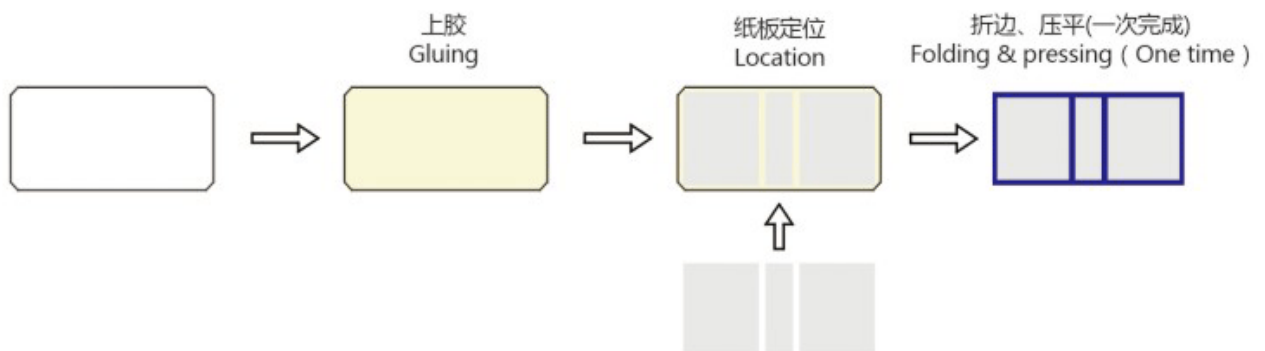
◆ The speed is 30 covers per minute, but the size of the covers will affect the speed of the machine

◆ Maximum stacking height of cardboard: 220mm

◆ Maximum stacking height of paper: 280mm

◆ Capacity of the glue bucket: 60L

**Production flow diagram:**





### 3、Environmental conditions

- ◆ Temperature: ambient temperature must be kept at about 18-24° C (air conditioning devices are required in summer)
- ◆ Humidity: The ambient humidity should be about 50%-60%
- ◆ Lighting: above 300LUX to ensure the normal operation of the photoelectric components
- ◆ Keep away from oil and gas, chemicals, acid, alkaline and explosive or combustible materials
- ◆ Keep away from oil and gas, chemicals, acid, alkaline and explosive or combustible materials
- ◆ Avoid direct sunlight
- ◆ Avoid direct fan blowing

### 4、Material requirements

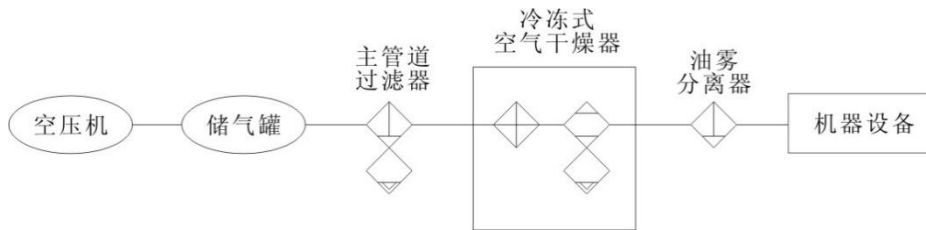
- ◆ Paper, cardboard must be kept flat, do the necessary moisture and wind dry measures
- ◆ Paper coated must carry out double-sided electrostatic treatment
- ◆ The board slitting error should be controlled within  $\pm 0.20\text{mm}$  (it is recommended to use board slitting machine KL1300 and center strip slitting machine ZX450)

5、 If the color of the adhesive surface on the face paper is close to or the same as that of the conveyor belt (black), adhesive tape of other colors must be affixed to the conveyor belt so as to distinguish the color standard (generally, as long as the adhesive tape with a width of about 10mm is affixed directly below the color standard, the color is recommended to be white).

6、 Power supply requirements: three-phase 380V/50Hz/40A voltage (special circumstances need to be customized, can be explained in advance, such as: 220V, 415V and other countries voltage).

7、 Air source: 5-8atmospheres(atmospheric pressure), 10L/min. Poor air quality is the main reason for the failure of pneumatic system, which will greatly reduce the reliability and service life of the pneumatic system, and the resulting loss will greatly exceed the cost and maintenance cost of the air source treatment device. Therefore, it is very important to correctly configure the air source treatment system and its components. The following air purification treatment schemes are available for reference (prepared by the user):

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- ◆ Air compressor referred to as air compressor, it is not the standard parts of the machine, the machine does not provide air compressor when leaving the factory, by the customer's own order. The power of the air compressor is 11KW, and the air flow is 1.5m<sup>3</sup>/min.
  - ◆ Function of gas storage tank (capacity 1m<sup>3</sup>, atmospheric pressure 0.6MPa):
    - a.High temperature gas from the air compressor can be condensed through the gas storage tank
    - b.Maintain the pressure stability of the rear actuator using pneumatic components
  - ◆ The purpose of the filter is to remove oil, water and dust in the compressed air, so as to improve the efficiency of the downstream dryer and extend the service time of the precision filter and dryer
  - ◆ Function of refrigerated air dryer: remove moisture in compressed air after compressed air is processed by cooler, oil-water separator, gas tank, pipe passing filter and so on
  - ◆ The role of the oil mist separator: further out after the cold dryer treatment of the compressed air moisture
- 8、Staffing: In order to ensure man-machine safety, and give full play to its performance, reduce faults, prolong service life, it is necessary to equip with dedicated, capable and have a certain mechanical equipment operation, maintenance ability of personnel 2-3.
- 9、Supporting materials
- Glue: animal glue (jelly glue, gel gel), specification: high speed and fast drying type