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## CNC AUTOMATIC MULTI-LAYER CUTTING SYSTEM

GIVE SERVICE TO  
INNOVATE



[www.matrixscope.com](http://www.matrixscope.com)

# PRODUCT DETAILS

## KNIFE COOLING SYSTEM

Reduce tool heat to avoid material adhesion.

## CUTTER SERVER CUTTING CONTROL SYSTEM

Self-developed, easy to operate; providing perfect smooth cutting.

## KNIFE INTELLIGENT CORRECTION SYSTEM

Adjust cutting mode according to material differences.



## KNIFE SHARPEN COMPENSATION

Automatically compensate knife sharpen according to blade wear, improving cutting precision.

## AUTOMATIC FILM MULCHING DEVICE

Prevent air leakage, saving energy.

## PUMP FREQUENCY CONTROL SYSTEM

Automatically adjust the suction force, saving energy.

## INTELLIGENT FAULT DETECTION SYSTEM

Automatically inspect the operation of cutting machines, and upload data to cloud storage for technicians to check problems.

# CNC AUTOMATIC MULTI-LAYER CUTTING SYSTEM

The nesting system is designed by computer, and the manual and computer are automatically and effectively combined to improve the nesting efficiency. As long as ordinary personnel are familiar with computer operations, they can also master the nesting skills within a week;

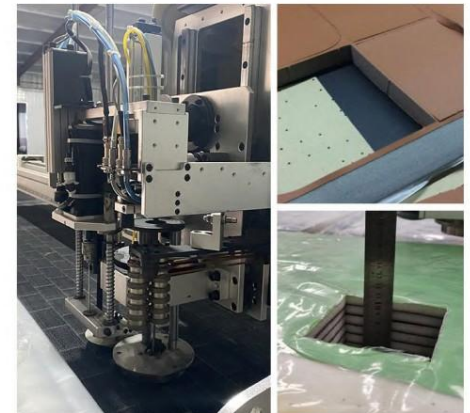
## TECHNICAL CONFIGURATION

Product number	MTC-HDF2836	MTC-HDF3141	MTC-HDF3441	MTC-HDF3741	other models
Clipping height	1-11cm				
Effective cropping width	1700mm	2000mm	2300mm	2600mm	Can be customized according to customer size
Effective cutting length	Automatic feeding unlimited length				
Automatic spreading length	16.8m spreading table (total working length 24m)				
Land size	2600mm wide x 3500mm long x 1600mm high	2900mm wide x 3550mm long x 1600mm high	3300mm wide x 4000mm long x 1600mm high	3600mm wide x 4030mm long x 1600mm high	Can be customized according to customer size
Way of transporting the knife	Reciprocating vibrating knife transport				
Cutting speed	0-60m/min				
Cuttingknife grinding	Double wheel counter-rotating grinding				
Adsorption method	Frequency conversion vacuum constant pressure control mode				
Safety devices	Automatic induction				
Automatic induction	Three-phase AC380V/50Hz/25Kw				
Operate computer	Ordinary computer, Windows7				
Operation panel	Touch control panel				
Clipping parameters	Input LAN, USB				
Device weight	About 4500Kg				
Standard Fitting Features	1、 Automatic adjustment of cutting speed				
	2、 Secondary compensation for cutting vacuum				
	3、 Inductive safety protection device				
	4、 Automatic feeding platform~				
	5、 Air flotation workbench × 14 sheets				
	6、 Automatic spreading machine × 1 (single pull, double pull, cutting, automatic edge alignment, etc.)				
Other functions	Mobile cutting device, automatic feeding device, pattern scanning, adsorption bed				
Operating system	Supports the overall rotation of the nesting chart, knife-edge conversion, single-piece recutting, one-key deletion of overlapping areas (supports removal of repeated lines), residual cloth cutting				
Main machines and accessories	1. Automatic multi-layer cutting bed 2. automatic cloth spreading machine 3. air flotation table				



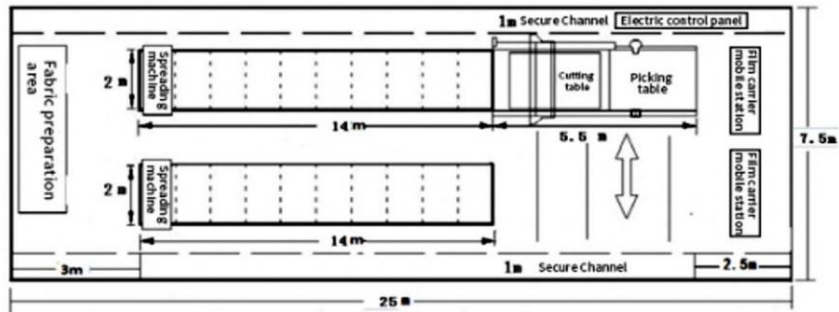
## PRODUCT FEATURES

- The pieces cut out by the equipment have high precision, and the lathe workers can sew directly without trimming the pieces, which effectively improves the sewing efficiency of the lathe workers;
- The equipment can realize zero-distance cutting and effectively save raw materials;
- The cutting bed control software supports multi-source data formats: it can directly receive commonly used clothing design and typesetting software;
- Computer-controlled automatic cutting, no need for paper prints, instead of a large number of cutting workers, to achieve mass production;
- The unique algorithm and motion control technology realize the seamless connection between straight lines and arcs, and the cutting precision is high;
- The equipment adopts automatic sharpening technology, and the sharpening time can be designed according to the characteristics of the fabric, effectively prolonging the service life of the cutting knife;
- No need to print and store paper plates, high reuse rate, convenient plate making management;
- Easy replacement of consumables and low replacement cost;
- High degree of automation and simple operation.

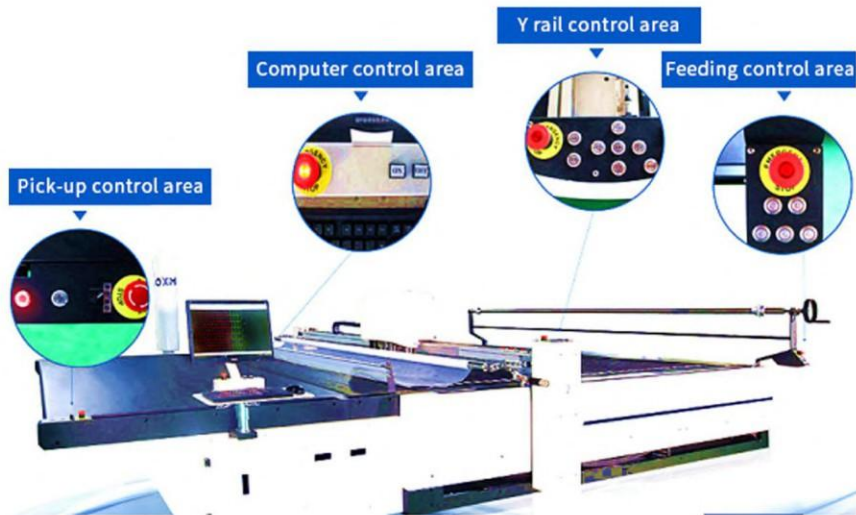


# MACHINE CONFIGURATION

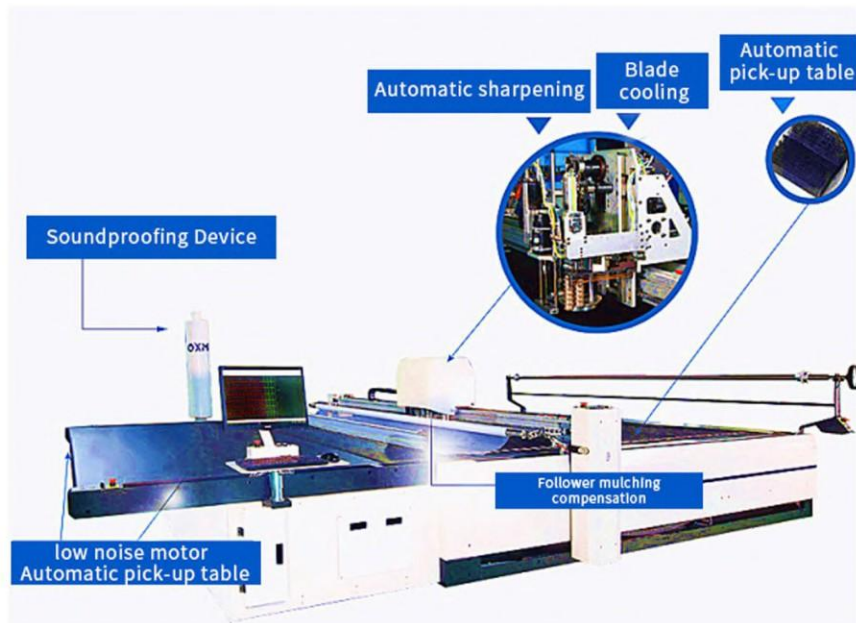
PRUDUCT NAME	MODEL	REMARK
mechanical case	One-piece platewelding	Integral quenching Annealing bed
X axis servo motor	400W	Japanese Panasonic Servo motor
Y axis servo motor	1500W	Japanese Panasonic Servo motor
T axis servo motor	100W	Japanese Panasonic Servo motor
Z axis servo motor (vibration axis)	1500W	Japanese Panasonic Servo motor
Coil Servo Motor	1500W	DC
Pick up servo motor	750W	DC
VacuumAdsorption Frequency Converter	18.5KW	Bester
Vacuum adsorption motor	18.5KW	Golden Bridge
Vacuum adsorption turbo pump	18.5KW	Golden Bridge
drag chain cable	All models	All models
controller		Independent research and development
Control System		Independent research and development
sensor	all	ImportOmron
guide	all	Taiwan PMI
Cutter head up and down cylinder	CDG1BN32-150	SMC imported from Japan
sharpening cylinder	CD55B25-100M	SMC imported from Japan
cylinder sensor	D-C73	SMC imported from Japan
Machine head bearing		NSK imported from Japan
proximity switch	all	Omron imported from Japan
Machine head solenoid valve	SY3120-5LZD-M5	SMC imported from Japan
Head hydraulic buffer	RBC1007	SMC imported from Japan



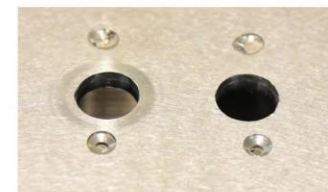
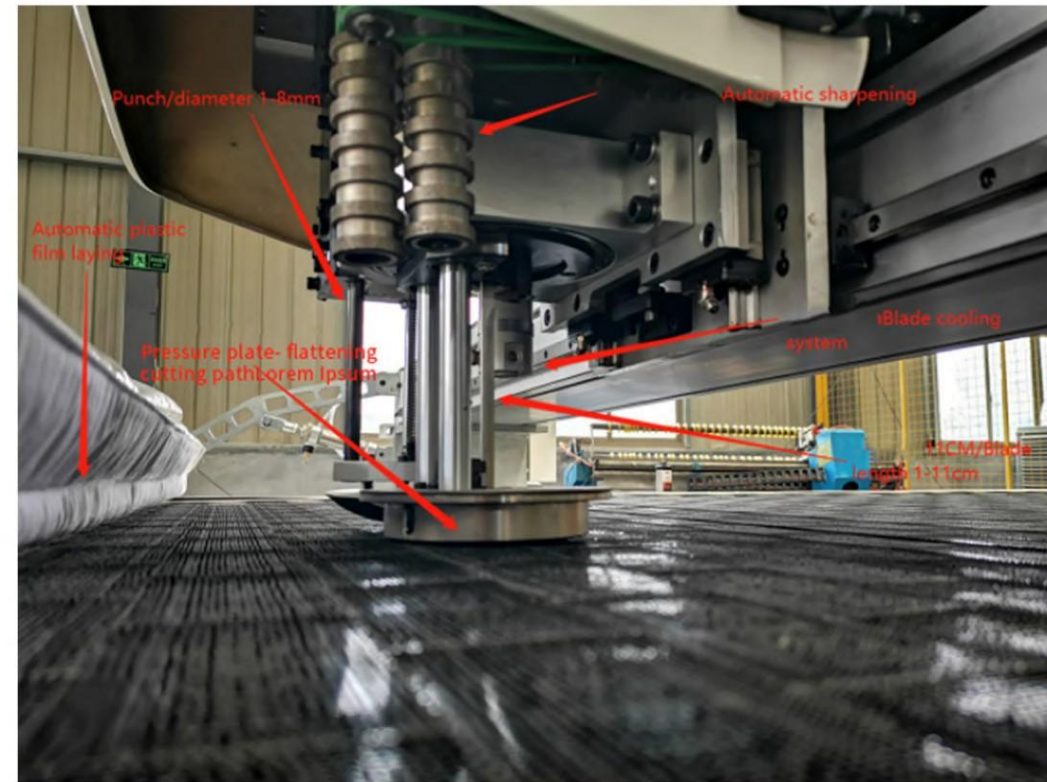
# SCHEMATIC DIAGRAM OF CUTTING SYSTEM



(Equipment annotation diagram)



(Equipment annotation diagram)



ADJUSTABLE ALUMINUM BELLOWS CUTTING TABLE TOP, ENSURING PLATFORM ACCURACY, STABLE CUTTING THICKNESS, HIGH ACCURACY. SPECIFIC OPERATION: TWIST THE LEFT EMPTY POSITION TO RAISE THE TABLE TOP, AND TWIST THE RIGHT HOLE POSITION TO LOWER THE TABLE TOP.

FINGER SIZED ELECTRICAL COMPONENTS SHOULD ALSO PAY ATTENTION TO QUALITY AND CHOOSE IMPORTED OMRON LIMIT SWITCHES TO BETTER PROTECT THE NORMAL OPERATION OF THE EQUIPMENT COMPARED TO OTHER INFERIOR PRODUCTS.



# CUTTING EFFECT DISPLAY

The quality of a device depends on various aspects, and more intuitively, it is demonstrated through actual results. MTC-CNC Machinery is committed to solving all cutting problems for users, providing corresponding solutions, quality assurance, quality assurance, and intelligent multi-layer cutting machines are worth choosing.



▶ MTC-CNC CUTTING DISPLAY



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▶ MTC-CNC CUTTING DISPLAY



## INTELLIGENT MULTI-LAYER CUTTING MACHINE

Make flexible cutting more efficient and simple

- Multi-layer cutting
- Fast speed
- Saving labors
- High precision



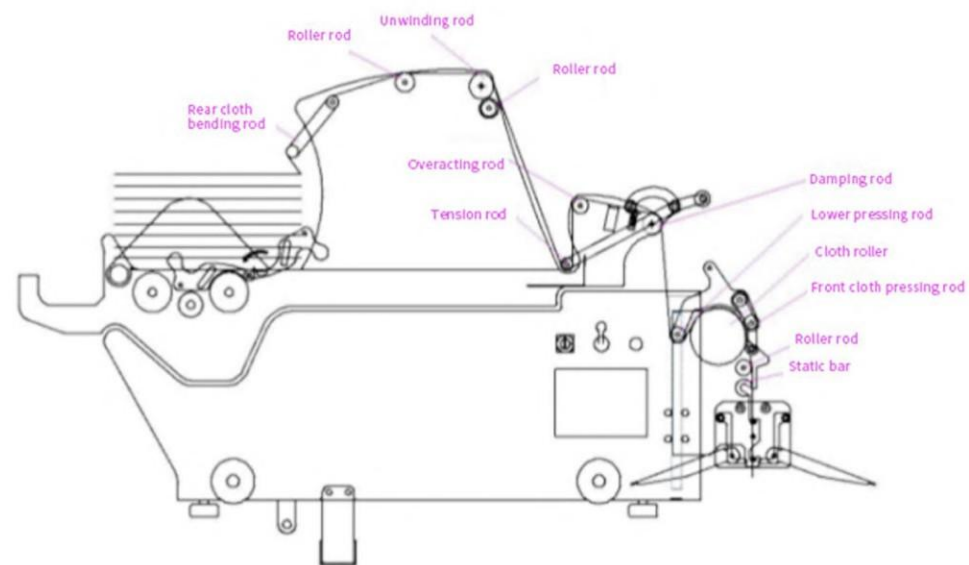
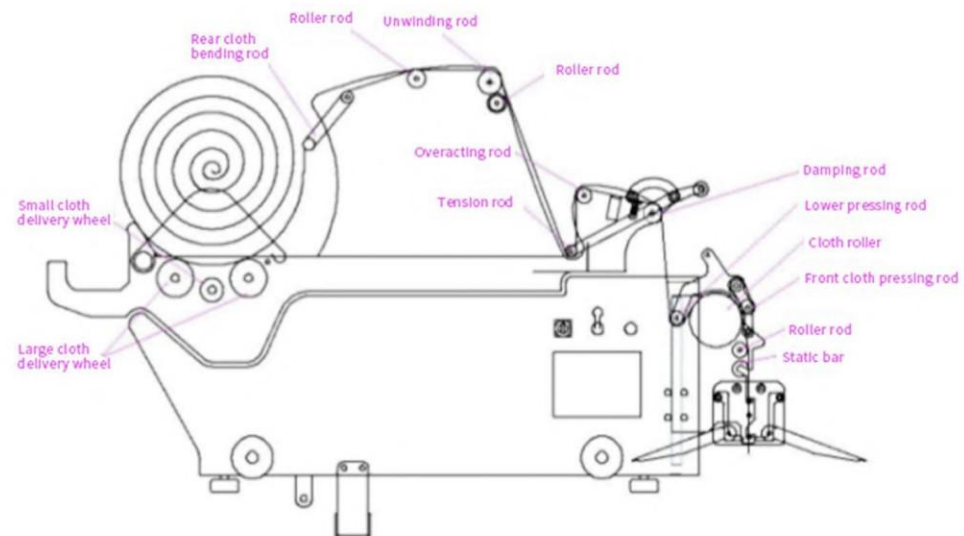
# INTRODUCTION TO THE SPREADER



## TECHNICAL CONFIGURATION

Regular product model	2313VP-MTC-271	2313VP-MTC-211	2313VP-MTC-321	2313VP-MTC-371
	2314DY-MTC-271	2314DY-MTC-271		
	2314DR-MTC-271	2314DR-MTC-271	2314DR-MTC-321	2314DR-MTC-371
voltage	220V			
power	1KW			
the speed of the laying	0-100m/min			
Single pull height	230mm			
Double pull height	160mm			
Fabric weight	100KG(MAX)			
Fabric diameter	550 (MAX)			
Machine sizeL*W*H	2250*1000*950	2550*1000*950	2750*1000*950	3250*1000*950
packing measurementL*W*H	2470*1220*1230	2770*1220*1230	2970*1220*1230	3470*1220*1230
net weight	370KG	420KG	440KG	470KG
rough weight	430KG	470KG	490KG	530KG

## MACHINE DIAGRAM

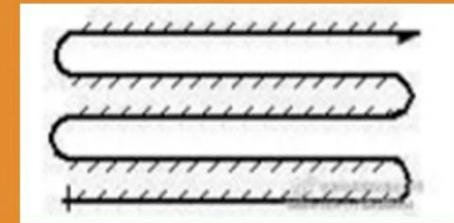


## PRACTICAL APPLICATION



Practical application: in the garment industry, most of the jacket cutting is not symmetrical, so the folding process requires the use of cutting and folding, and the curtain process in the home textile industry, also requires the same side up, these processes must require the use of cutting mode.

1: Z type stacking: continuous cloth, before and after in the process of the front and back pressure cloth clamp the cloth, to realize the round and forth paving, the cloth is face to face, the effect as shown in the figure:



Practical application: in the garment manufacturing industry, the version of pants, its process requirements are in pairs, and shoes, insoles, home textile industry covers, etc., these are required in pairs, Z-shaped stacking just meet this process requirements.

Of course, there are some industry processes that do not care about the positive and negative sides of the fabric, so in order to improve the efficiency of stacking and adopt Z-type stacking.

2.Cut stacking, commonly known as (single pull), the so-called shear stacking is from the start point to the end point is not paving, from the end point to the start point paving, each layer of cloth laying to complete the cutting at the start point, laying out of the cloth is face up. The effect is shown in the figure:



# MAIN FUNCTIONS

**1.LCD touch device:** simple to set the paving length、 way、 quantity、 speed and paragraph.

**2.Cloth display device:** can be effectively adjusted with the width of the cloth and the cloth, so that the cloth does not produce wrinkle phenomenon.

**3.Cutting knife device:** the cutting cutter and the main engine can be simply disassembled and disassembled, and the cloth cutting distance and cutting speed can be set according to the cloth width. Fold quantity: can be double pull bedding.

**4.Automatic cloth preloosening device:** cloth and then spread, release the paving tension and maintain the consistency of the paving quality.

**5.Electric eye automatic edge device:** correctly detect the edge of the cloth, in the paving operation process can be do automatic edge.

**6.Cloth tail sensor device:** the cloth is finished to control the host automatically stop movement, and automatically complete the origin back to zero, reset the fixed point.

**7.Automatic rising device:** according to the thickness of the cloth, with the height of paving.

**8.Emergency stop device:** stop cable on both sides of the bed, which can be pulled at any position at any time for emergency stop.

## Function point:

1. no cloth shutdown, automatically complete the origin back to zero, reset;
- 2.When the emergency stop, the cloth will not be dragged and deformed;
- 3.streamline shape, reduce wind resistance, reduce noise, reduce vibration;
- 4.Automatic cloth display system;
- 5.Microcomputer PLC integrated control system, controlled in the way of man-machine dialogue, and computer control intelligent tension-free paving mode.



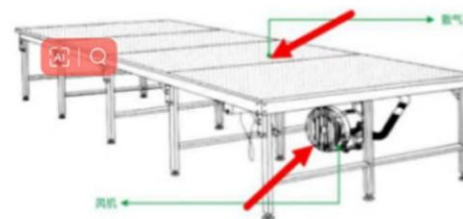
## SUPPORTING STANDARD TABLE PLATE / AIR FLOAT TABLE



**Standard table surface:** conventional width 1.83/2.13/2.33 meters, length 1.2 meters, machine width + 0.23 meters, unconventional size can be customized, multi-layer plate 30mm thick beautiful plate surface, tripod 40 \* 80C steel wall thickness 2.0 thick 50 \* 50, Angle iron 4mm thick, electrostatic powder. Modular design, convenient demolition, transportation, can be arbitrarily extended or shortened, using the surface plate, table smooth, all solid wood operation, strong group wear resistance, never deformation, easy to cut, platform plate using E1 multilayer plywood and add the plate wear resistant surface, table smooth, never deformation, longer service life, adjustable height (78cm-84mm), add stainless steel rail can be widely used with the brand cloth machine.

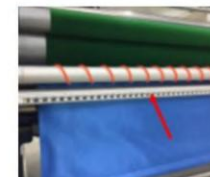
## MOBILE PLATFORM DRAWING MACHINE:

The total width of the machine, the width of the plate and the machine shell is 65CM, the distance between the two plates is 1.5 meters, the 1.9m fabric laying system occupy width is 7.5 meters, the single plate needs a width of 3 meters, and the total height is 2.2-2.4 meters



**Air float table:** can easily move the pulled fabric through the blowing device, do the cloth while cutting, greatly improve the work efficiency. Three platform panels are equipped with a three-phase 380V,2.2KW blower.

**Front pressure device**  
Note: install 1 pull cloth machine with 2 plates of the factory, need to be equipped with more than a front pressure device



**Electrostatic eliminator**  
Note: can eliminate the static electricity from the fabric, especially in the dry weather.

## FOR EXAMPLE THE LENGTH OF THE PLATE ABOVE 12M

knitting cloth: the cloth machine can be 25-30 meters per minute, according to the daily working 8 hours calculation daily cloth 12000-14400 meters, excluding the time loss, the daily normal cloth can often be 10000 meters, one person can operate

Artificial rabb can be 5-8 meters per minute. According to the 8 hours of working per day, the daily rabb is 2400-3840 meters. Excluding the time loss, the normal daily rabb is at most 3000 meters, requiring 2 operations.

According to the daily demand of 10000 meters, 1 person b it, and artificial rabb needs at least 2

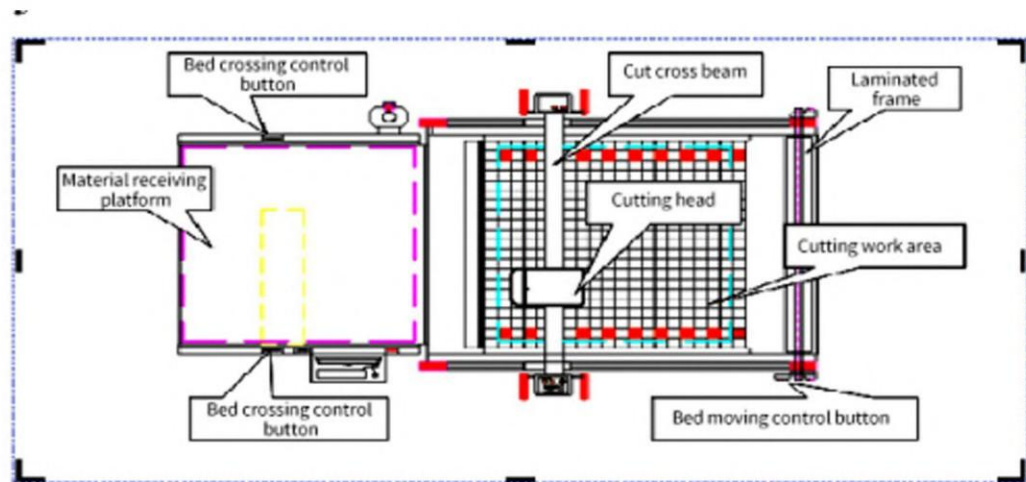
school weaving: cheerleading machine 30-50 meters per minute, calculated according to the work of 8 hours per day, daily rabb 14400-24000 meters, excluding the time loss, daily normal rabb can be 21000 meters, one person can operate.

Artificial rabb can be 10-15 meters per minute, calculated according to 8 hours per day, the daily rabb is 800-7200 meters. Excluding the time loss, the maximum daily normal rabb is up to 6000 meters, which requires 2 operations

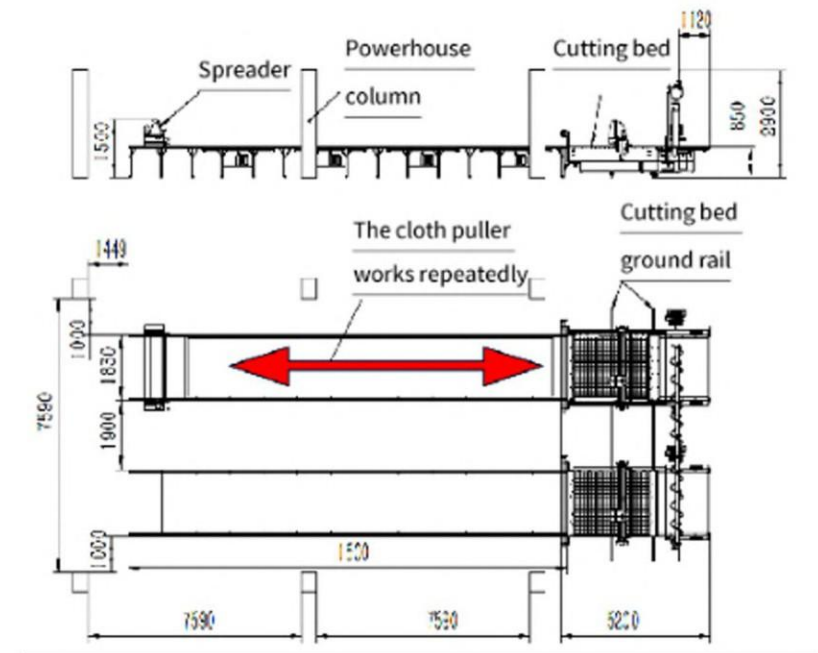
According to the daily demand of 20000 meters, the cloth machine cloth 1 is completed, the artificial cloth needs at least 2 according to the human salary of 4000 yuan / month, the cloth machine can recover the cost in a year.

1. The quality of the cloth machine is consistent, the cloth is flat, there is no air between the cloth layers, and the cutting efficiency is increased by about 20%.

2, the cloth machine uses electronic equipment to automatically opposite the edge, the cloth stacked neatly and unified, improve the utilization rate of cloth about 0.9% fabric head and tail error 1CM, 1 year down the fabric can save waste (1000 meters \* 005% -50 meters \* 300 days =15000 meters).

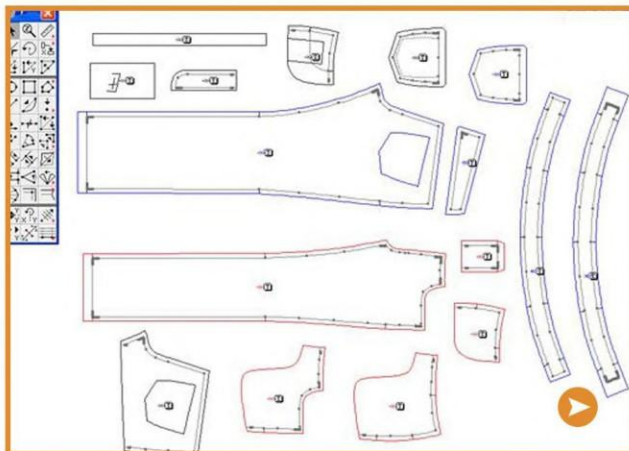


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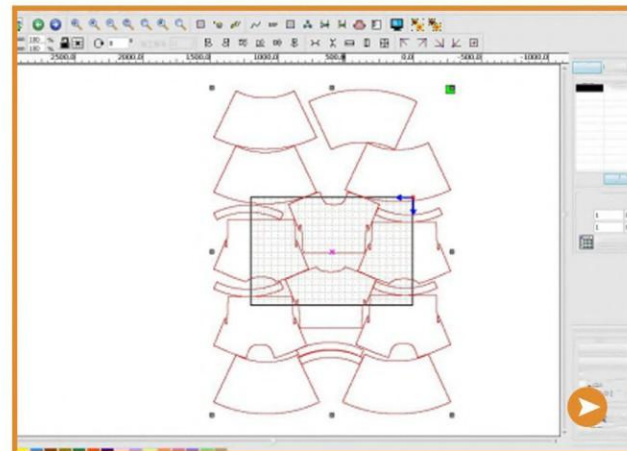




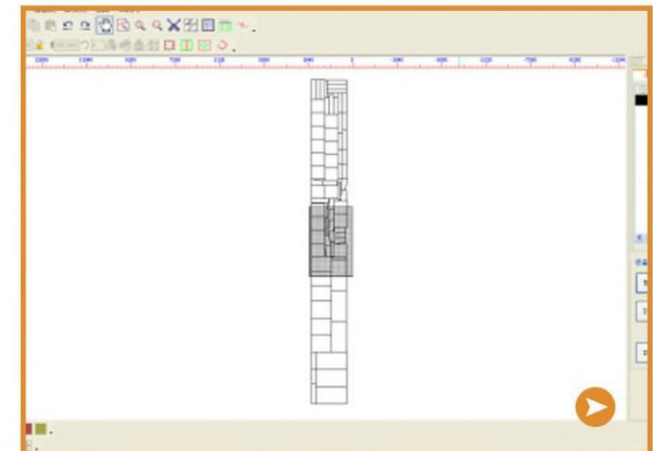
1. Electronic version display of the finished product after scanning:



2. Small-format cutting output after fully automatic typesetting:

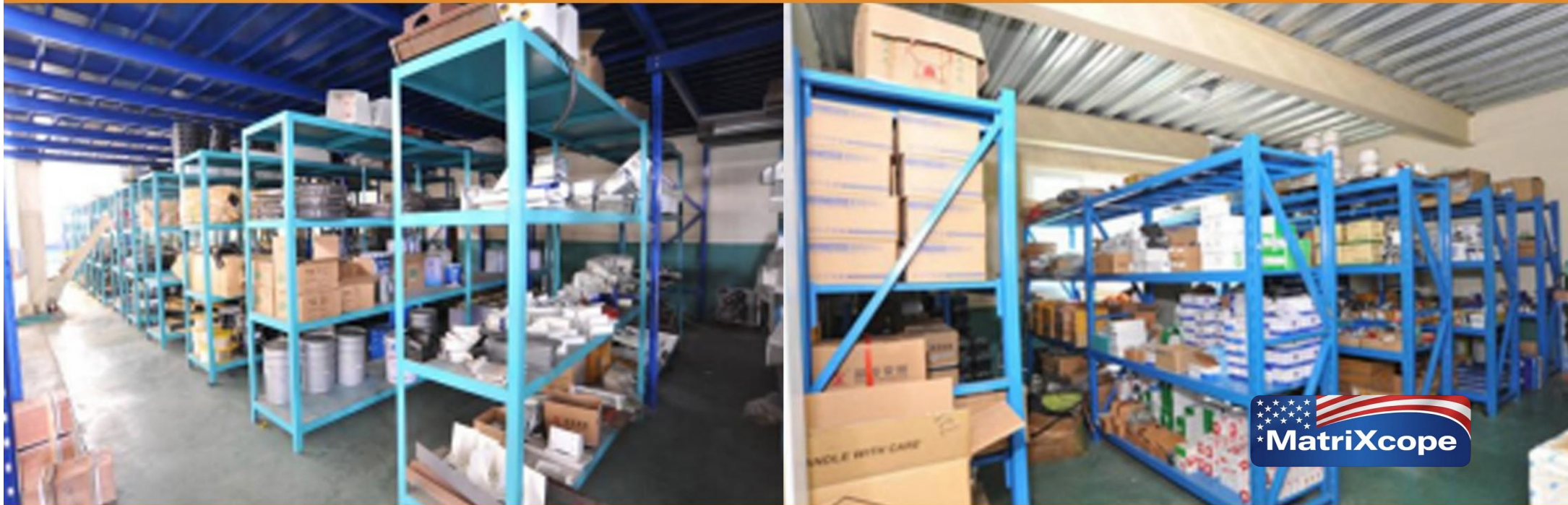


3. Cut output, file version of permanent preservation, U disk data cable connection is simple and convenient.



## PARTS STORAGE CENTER

Orderly spare parts warehouse: Adequate accessories storage, so that customers need in time, the first time to send parts, to ensure the normal operation of customer production



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