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EURO-ASIA MACHINERY GROUP

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Care For Your Transformer

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CNC Foil winding machine



Touch screen and control console



Control cabinet



Foil coil

Functional feature:

1. Adopts an electrical servo deflection correction system to achieve manual/automatic adjustment of the foil position more conveniently and reliably.
2. An advanced electrical control technology of constant tension is adopted to control the tension of the foil and the interlayer insulation, with the features such as quantitative, accurate and convenient control of the tension, no mechanical friction. The required tension can be maintained for forward winding, stop and backward winding, ensuring compact coils.
3. The interlayer insulation adopts a cantilever mechanism, convenient for feeding and the mechanism can be pulled out as a whole without guide rails outside the body.
4. Automatic welding mechanism and roll shearing mechanism adopt ball screws and linear guide rails for drive, ensuring the service life and accuracy of the device.
5. This device first adopts the all-in-one swing frame, solving problems such as few coil turns and deflection correction lag.
6. This device is a hi-tech product produced by combining with actual production on the basis of many similar products at home and abroad. The whole machine is controlled via an advanced PLC touch screen, with high automation level and simple and reliable operation, representing higher production level of domestic foil winding machines.

Main technical parameters:

Model Parameter	BRJ-600	BRJ-800	BRJ-600	BRJ-1100	BRJ-1600
Foil width of coil (mm)	≤600	≤800	≤1100	≤1400	≤1600
Outer diameter of coil (mm)	120-600(700)	120-700(850)	150-800(1000)	150-900(1300)	200-1100(1500)
Foil thickness(mm)	0.3-2.5 single and double layers	0.3-2.5 single and double layers	0.3-2.5 single and double layers	0.3-2.5 single and double layers	0.3-2.5 single and double layers
Winding speed	0-30 r/min	0-30 r/min	0-20 r/min/0-30 r/min	0-20 r/min	0-17 r/min
Max tension of foil (single layer)	≤6KN	≤8KN	≤10KN	≤13KN	≤15KN
Automatic welding model	DC Pulse Argon arc welding/cold pressure welding	DC Pulse Argon arc welding/cold pressure welding	DC Pulse Argon arc welding/cold pressure welding	DC Pulse Argon arc welding/cold pressure welding	DC Pulse Argon arc welding/cold pressure welding
Deflection adjusting accuracy of foil	≤±0.5mm	≤±0.5mm	≤±0.5mm	≤±0.5mm	≤±0.5mm
Max. Tension of interlayer insulation	≤0.2KN	≤0.2KN	≤0.4KN	≤0.4KN	≤0.4KN
Installation capacity	15KW/25KW	20KW/30KW	25KW/35KW	40KW	45KW

Automatic coil winding machine



Functional features:

1. This device can complete winding of rectangular, circular and long circular coils.
2. It has features such as wire laying, stepless variable speed, width adjustment, automatic cabling and stable wire laying and starting.
3. The independent cabling system can be applicable to round and flat wire respectively with the cabling speed keeping up with the winding machine or adjusted separately (due to the change on the wire diameter). The adjustment can be done when the winding machine works (unnecessary to stop the winding machine).
4. The forward and backward rotation of the main shaft can be achieved respectively via the foot switch and the control box. The touch screen displays the number of winding turns and has functions such as forward and backward countering and pow-off memory.
5. Frequent transformers, PLC and touch screens used in the winding machine are of domestic famous brands with reliable quality.
6. All operation handles and hand wheels of the winding machine can be operated flexibly without blockage or seizure.
7. The transmission of the whole machine is stable and the wire arrangement is orderly with high precision and low noise.

Technical parameters:

Model Parameter	ZRX-600	ZRX-800	ZRX-1100
Height of the coil	≤ 500 mm	≤ 800 mm	≤ 1100 mm
Outer diameter of the coil	≤ ϕ600 mm	≤ ϕ800 mm	≤ ϕ900 mm
Inner diameter of the coil	≥ ϕ80 mm	≥ ϕ80 mm	≥ ϕ80 mm
Speed regulation mode	Stepless variable speed	Stepless variable speed	Stepless variable speed
Operating speed	0-375 r/min	0-375 r/min 220 r/min	0-375 r/min 220 r/min
Wire specification	2 flat conductors ≤ 3*12 mm Lacquered Wire: 0.3mm-3mm	2 flat conductors ≤ 3*12 mm Lacquered Wire: 0.3mm-3mm	2 flat conductors ≤ 3*12 mm Lacquered Wire: 0.3mm-3mm
Operating torque	≤ 300 N/M	≤ 300 N/M	≤ 300 N/M
Center height	850 mm	850 mm	850 mm
Center-to-center distance of reel	250-800 mm	250-1100 mm	400-1300 mm
Electrical control system	Touch screen	Touch screen	Touch screen
Winding reel	Square shaft 40* 40	Square shaft 40* 40	Square shaft 50* 50
Rectangular coil diagonal length	≤ 700mm	≤ 900mm	≤ 1100mm
Workpiece weight	≤ 500 KG	≤ 800 KG	≤ 1000 KG
Automatic wire arraying function	Min. Space of wire diameter adjustment 0.01 mm	Min. Space of wire diameter adjustment 0.01 mm	Min. Space of wire diameter adjustment 0.01 mm

HV Automatic Winding Machine



Functional Features:

1. With adoption of gear mechanical transmission systems, the machine is featured with high efficiency and low noise.
2. With braking function, the spindle is flexible and reliable.
3. With adoption of frequency control in electrical system, the machine controls braking using a frequency converter, so start and brake slopes can be preset for optimal winding.
4. The scope of frequency control is wide. Speed regulation is accurate and stable. The insulation level of the motor is Level F.
5. Automatic winding displacement, auto-displacement interlayer trapezoid insulation.
6. Servo motor and PLC system are adopted. High-resolution touch-screen panel is adopted for display and human-machine dialogue. Imported ball screw drive and linear guide are adopted for accurate displacement.
7. A dedicated line is arranged to synchronize auto-displacement and winding. Stripe inter-layer insulation increases the thickness automatically as the inter-layer voltage gradient changes to realize optimal matching of differential voltage and insulation thickness, and is the most effective way to save materials. Materials can be saved by 3% generally.
8. The displacement device can be tensioned. The tension is adjustable to satisfy different wire gauges. An air clamber is arranged to meet demand of the work piece.
9. Before winding, the auto-displacement pitch can be set conveniently based on the wire gauge. During winding, possible error can be trimmed manually to ensure that coils are tight.
10. The desktop control box is arranged above the chassis so it is used conveniently and has clear display.
11. A square shaft is arranged (40 × 40 × L mm or customized).
12. Connection of disk chuck and square shaft: fixed or detachable.

Technical Parameters:

Model	ZRXJ-600	ZRXJ-800	ZRXJ-1100
Parameter			
Center height	950mm	950mm	950mm
Center-to-center distance of reel	200-800mm	200-1000mm	200-1300mm
Running torque	≤ 220N.M	≤ 500N.M ≤ 220N.M	≤ 500N.M
Service speed	0-370r/min	0-240r/min 0-370r/min	0-220r/min
Motor power	4 KW	5.5 KW	5.5 KW
Speed adjustment mode	Stepless frequency control	Stepless frequency control	Stepless frequency control
Applicable workpiece	Outer diameter: up to 600mm; Inner diameter: 80mm or more	Outer diameter: up to 800mm; Inner diameter: 80mm or more	Outer diameter: up to 1000mm; Inner diameter: 80mm or more
Weight of workpiece	500kg	700kg	1000kg
Max turns of the counter	9999.9		
Enameled wire specifications and pcs	φ 0.3mm-φ 3mm, single piece		
Qty of interlayer insulation spindle	1 piece		
Interlayer insulation specification	Width: 20 to 80mm, Thickness 0.08; Stripe-type insulation		
Qty of end insulation spindle	1 pc		
Interlayer insulation specification	Width: 20-80 mm Thickness 0.08; Stripe-type insulation		
Qty of end insulation spindle	2 pcs		
Qty of pay-off rack	Paper covered wire: 2 pcs Enamelled wire: 1 pc		
Minimal displacement space	Larger than 0.01mm		
Counting	5-digit digital display, preset total turns, multi-section sub-preset, reversible counting, holding during power failure		
Power supply	380V/50Hz 5KW	380V/50Hz 6KW	380V/50Hz 6KW
Weight	1500 kg	1800 kg	2000 kg
Color	Blackish green		

Vertical Winding Machine



Functional Features:

The machine is made up of a stepless speed variable winding chuck and a hydraulic lifting platform. No any pit should be constructed in foundation and the chuck need not lift. According to customer requirements can be arranged into a pie wire, tensioning unit, accessories and operators could load on the platform, which enables a constant operating altitude. This machine is suitable for regions with high level of underground water or workshop unsuitable for pit.

Application:

Over Floor Vertical Winding Machine is applied to coil winding for large and middle capacity transformers.

Technical Specifications of Vertical Winding Machine

Model	LR-10	LR-15	LR-20	LR-25	LR-30	LR-35
Parameter						
Diameter of chuck (mm)	φ1500	φ1800	φ2900	φ2200	φ2800	φ2800
Max coil dia ceusion (mm)	φ2200	φ2500	φ3000	φ3400	φ3500	φ3500
Height of chuck above floor (mm)	500	500	500	500	500	500
Max load on chuck (T)	10	15	20	25	30	35
Max torque of chuck (N.m)	9000	10000	15000	16500	23000	35000
Chuck speed (r/min)	0-10	0-10	0-10	0-10	0-10	0-10
Travel of platform (m)	2.2	3.0	3.0	3.0	3.5	3.5
Elevating speed of truck (m/min)	0.5	0.5	0.5	0.5	0.5	0.5
Moving speed of movable platform (m/min)	2.5	2.5	2.5	2.5	2.5	2.5
Outline Dimension (mm) (L*W*H)	5086×4586×4236	6500×6000×5020	6500×6000×5020	6856×6356×5020	6856×6356×5020	6856×6356×5020

HJ-400-5 (2-Shear & 3-Punch) Cut-To -Length Line For Transformer Lamination)



Application:

The equipment is an ideal machining equipment for producing transformer silicon steel sheets, and the most advanced equipment in China developed by us independently with reference to the cut-to-length lines of Germany Georg and Belgium Soenen.

Process:

The equipment can be used for shearing, sorting, and stacking of silicon steel sheet iron cores automatically as required. With higher degree to automation, it can meet automatic production demand for machining transformer cores, ensuring product quality and machining accuracy. Automatic longitudinal movement is possible for punching to realize simultaneous operation of punching and shearing, thus production efficiency is increased. Automatic and accurate transverse positioning movement of the blanking tooling allows single shearing and automatic multiple shearing in a batch without frequent change of material, and accurate positioning via locating pin allows automatic column stacking function, thus reducing labor intensity of manual iron stacking greatly.

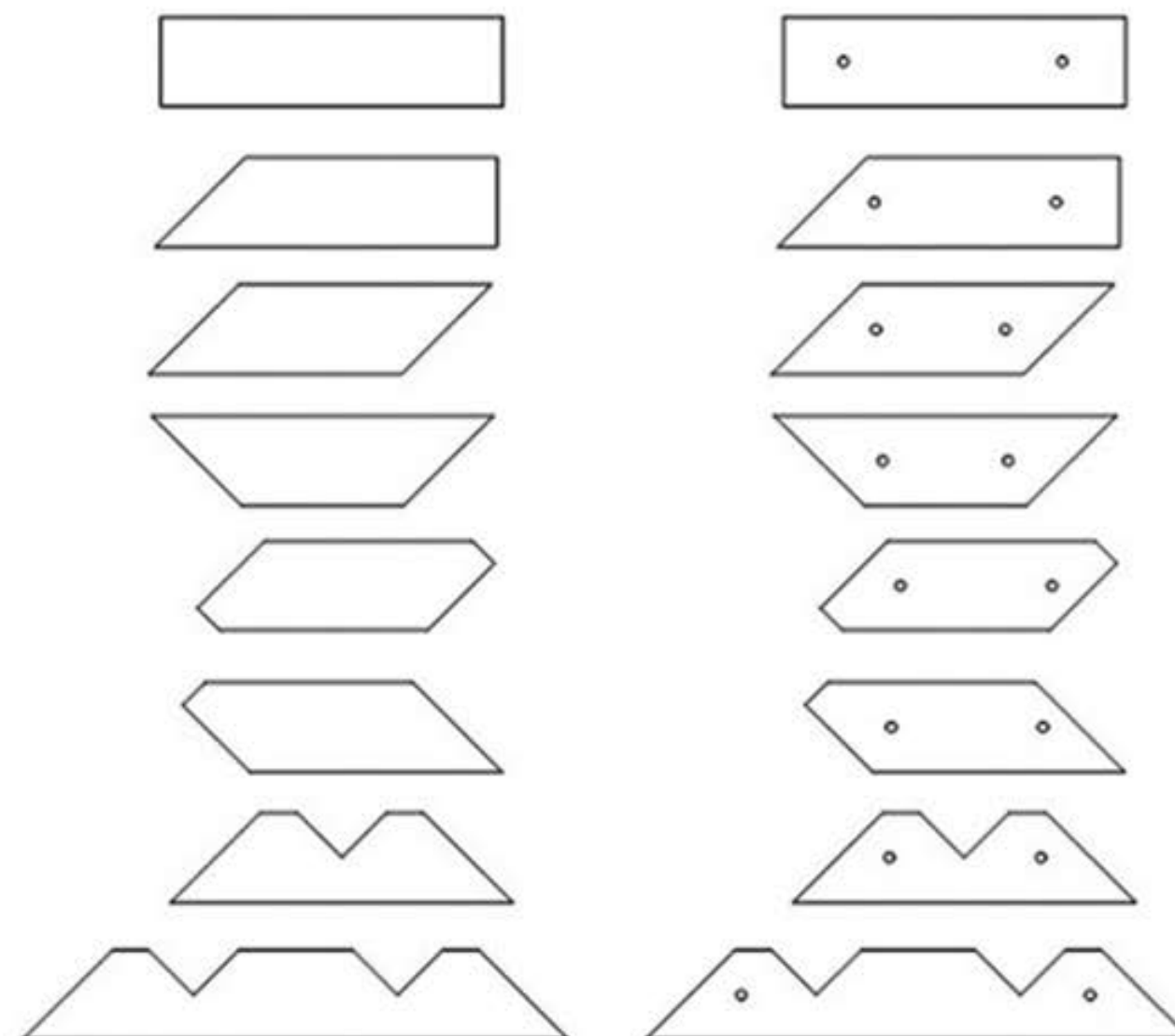
Components:

1. Double-head Decoiler (auto-expansion, inverter control, auto-loading)
2. Non-pit Buffer Device (Multistage speed automatic control, deceleration operation stable)
3. Servo transfer billet system (Full-closed-loop-control high accuracy)
4. V type Punch Unit (Servo driven, able to longitudinal & cross step-lap mechanism.)
5. 45° Shearing unit (with servo motor)
6. 135° shearing unit (Servo drive center positioning)
7. O type Punch Unit (Servo drive center positioning, longitudinal auto move)
8. Material stacking (servo location, magnetic sucking)
9. Discharge trolley (auto-moving, servo location)
10. Sid-guiding rail system (center-location, auto width-adjusting)
11. Control cabinet and Operation console
12. Pneumatic system (cylinders, valve, etc.)
13. Operational direction: Left line/Right line

Main technical parameters:

Parameter	Type	HJ-400-5
Coil material width tolerance		± 0.1 mm
Shearing burr		≤ 0.02 mm
S° deviation		Single direction ≤ 0.2 mm/2000 mm
Width of sheet		40-440 mm
Length of Sheet		350-2000 mm (short side)
Thickness of Sheet		0.23-0.35 mm
Accuracy in Length		± 0.2 mm/2000 mm
Sheering burr		≤ 0.02 mm
Lifetime of blade		Approx. Over 1.2 million cuts
Accuracy of shearing angle		$\pm 0.025^\circ$
Max feeding speed		0-240 m/min
Cutting time per time		≤ 0.23 s (electrical)
Punching mold burr		≤ 0.02 mm
Lifetime of punching die		Approx 0.3-0.5 million punches
Layers of step-lap		1,2,3,4,5,6,7,8
Max stacking thickness		450 mm (containing material board)
Human-machine interface		Touch screen soft keyboard
Size of whole machine (L* W* H)		18m * 5 m *2.2m
Installation capacity		25 KW

The device with standard configurations can process the following sheets:



HJ-300/400/600/900 Cut-to-length Line for Transformer Lamination



Application:

This machine is the latest special equipment for transformer lamination manufacturing.

Components:

- | | |
|---|------------------------|
| 1. Twin-head decoiler | 2. Buffer mechanism |
| 3. Feeding and measuring mechanism | 4. O Punch |
| 5. V Punch | 6. Shearing unit |
| 7. Divert mechanism | 8. Conveying mechanism |
| 9. Magnetic adsorption stacking mechanism | 10. Stacking trolley |

Processing :

Decoil the raw material, feed with a fixed length via the servo motor, shearing it with various shearing tools into sheets of various types according to the drawing and then piling them on the stacking table via the conveying mechanism and the arranging mechanism.



Twin-head decoiler



Automatic measuring device



Punch and shearing unit



Stacking device



Scrap recycling device



Electrical cabinet



Touch screen and operation console



Stacking carriage

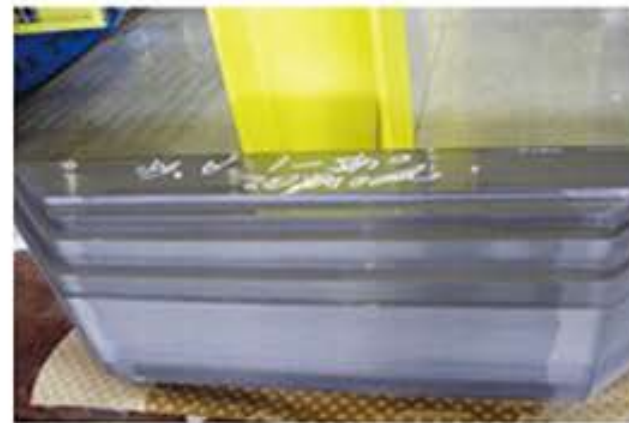
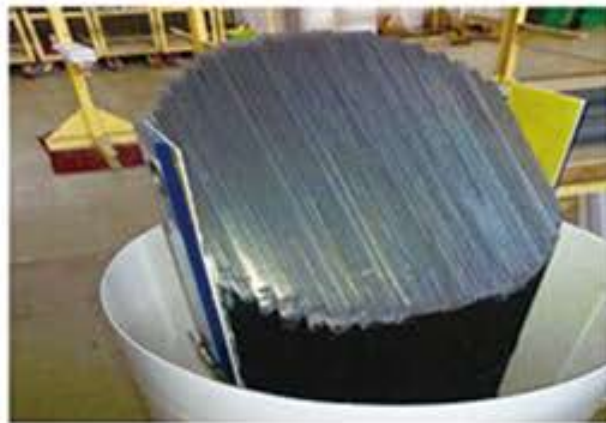
Functional features:

1. The device can complete automatic production of various sheets for laminated, full tapered seam cores.
2. Shearing power : imported electrical servo control technology is adopted, so the device is featured by high speed, low noise and long life.
3. Feeding power: adopt high torque AC synchronous servo motor, so has characteristics such as rapid response, high positioning and accuracy, low noise, low braking thermal loss and long life.
4. Track positioning: the centralized positioning is achieved by dragging the linear tracks on the ball screw with a servo motor. So the positioning is rapid, accurate and convenient and the track width can be memorized automatically.
5. Movement control: advanced PCC control and Ethernet Powerlink communication technology is adopted, reduced greatly wiring and improving the reliability, stability and real-time of the system. Remote control and trouble diagnosis can be achieved via the above control and technology, shortening the maintenance time and reducing the cost to the largest extent.
6. arrangement mode: the backward pushing arrangement mode is adopted and long sheets can be arranged orderly with low vibration, reducing the orientation permeance of the processing process on silicon steel sheets to the largest extent.
7. Life guarantee: standard components of the device (linear guide, ball screw, various bearing) are all imported famous parts. High accuracy of processing and assembly of basic components extends the service life of the device to the largest extent.
8. This machine is the hi-tech mechanical, optical and electrical integrated product. With multiple patented technologies, it represents high manufacture level of domestic transverse shear lives and can substitute imported products, saving much outsourcing fund. Some models have the function of automatic cutting to form column.

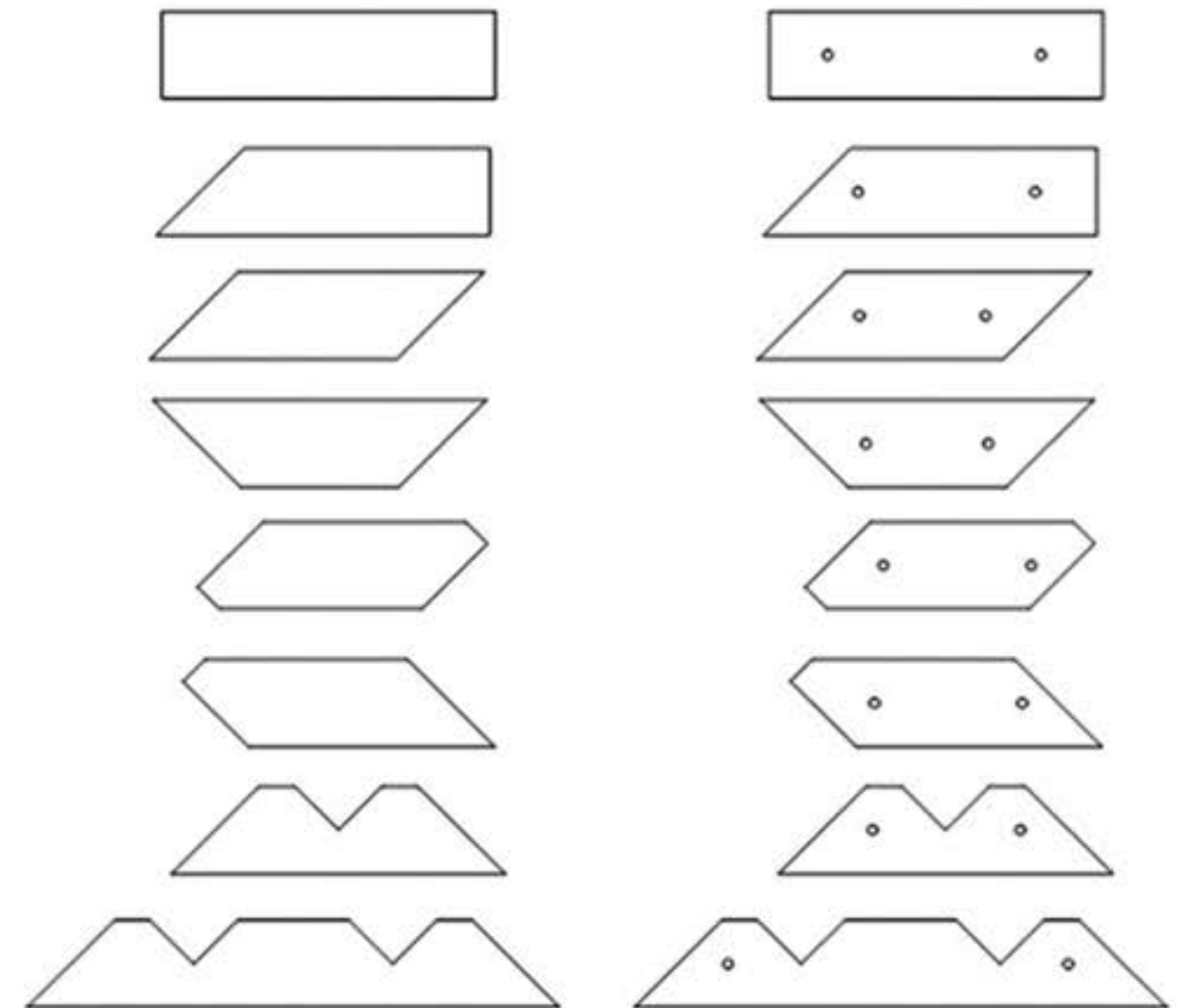
Note: Dimensions and product structure can be determined according to the specific technical protocol.

Technical Parameters:

Parameter	Model	HJ-300	HJ-400	HJ-600	HJ-900
Sheet width (mm)		30-340	40-440	60-640	70-920
Sheet length(mm)		250-1500	350-2500	400-3500	400-5000
Sheet thickness(mm)		0.23-0.35; 0.35-0.5			
Accuracy in length		$\leq \pm 0.2\text{mm/m}$			
Remained shearing burr		$\leq 0.02\text{mm}$			
Accuracy of shearing angle		$\pm 0.025^\circ$			
Feeding speed		0-240 m/min			
cutting time per time		$\leq 200\text{ s}$			
Life time of tooling		1.2 million times			
Max step width		40 mm			
Cutting steps		1,2,3,4,5,6,7			
Positioning Mode		Centralized positioning			
Stack mode		Backward pushing			
Human-machine interface		Touch screen with 64 keys			
Installation capacity		15 kw	20 kw	30 kw	35 kw
Rated capacity		12 kw	14 kw	16 kw	18 kw
Overall dimension		10m × 4m × 1.8m	15m × 5m × 2m	18m × 6m × 2.5m	22m × 6m × 2.5m



The device with standard configurations can process the following sheets:



Steel strip longitudinal shearing line



Functional features:

- 1.The whole line is arranged properly and all adopt electrical and hydraulic drive, convenient to operate and with high production efficiency.
- 2.Key electrical control elements, hydraulic elements, PLC and speed governors are top-grade imported products. The speed of the whole line is synchronous and the the device runs stably and reliably.
- 3.The blade axis of the longitudinal shearing machine is supported via main shaft bearings of the high-precision machine tool so that the blade axis has low axial and radial runout.
- 4.The blade cutter adopts the locking made through three-point positioning via nuts with accurate size precision and firm locking.

Application:

This device is a special device to cut steel strip rolls into strips with a certain width. It is mainly used for decoiling, cutting into strips and coiling of silicon steel sheets and thin steel plates and is applicable to processing and production of plate sheets for transformers, motors and instrument transformers.

Main technical parameters of steel strip longitudinal shearing line

Model	ZJ-1000		ZJ-1250	
Parameter				
Material	silicon strip, stainless steel, copper coil, aluminum coil			
Inner diameter of the coil (mm)	ϕ 500			
Width of coil (mm)	1000		1250	
Weight of coil (t)	3	5	5	10
Strip Thickness (mm)	0.20-0.35, 0.35-0.5			
Strip width (mm)	40-1250			
Shearing speed (m/min)	0-80	0-120	0-80	0-120
Error of shearing width (mm)	±0.1			
Shearing burr (mm)	≤0.02			
Max winding diameter (mm)	ϕ1000		ϕ1200	
Straightness deviation (mm/m)	≤0.2/2			
Number of strips	12			
Installation Power (kw)	Approximately 30/40		Approximately 40/50	
Outline Dimension L*W*H (m)	Approximately 13×5.5×2		Approximately 13×5.5×2	