

## Automatic core stacking robot

### Application

It's used for transformer core stacking, sheets with or without hole is available.

Suitable for step-lap lamination.

### Machine Features

- ✧ Omron motion control technology and SMC vacuum grab technology.
- ✧ High efficiency, low noise.
- ✧ Vision sensor system, automatic alarming and emergency stop.
- ✧ With auto width adjusting system for different sheet width.
- ✧ Rapid sheet positioning and grabbing.
- ✧ Stacking efficiency is improved by simultaneous stacking of yoke, center, limb.
- ✧ Remote control system



### Technical description

16 axis servo control system + SDRI lamination control software

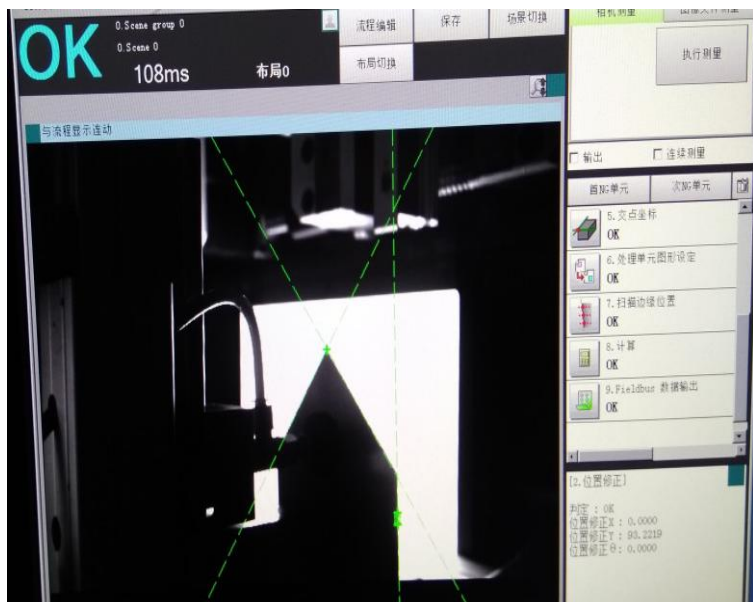


16 axis servo control system



CNC interface

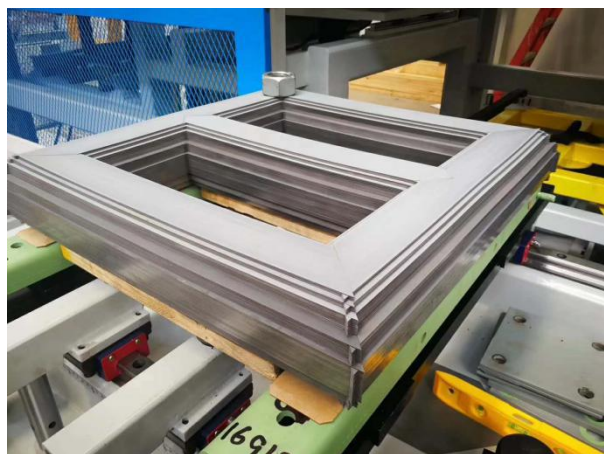
# SDRI 信源



Vision sensor system,  
automatic alarming and  
emergency stop.



- ◇ Visual system, automatic lubrication
- ◇ Online detection, video monitoring
- ◇ Laser positioning, auto grabbing
- ◇ Safety protection



## 技术参数/Technical parameter

No.	Items	Parameter
1	Tolerance at the same length level	$\leq 0.5\text{mm}$
2	Tolerance at the same width level	$\leq 0.5\text{mm}$
3	Thickness	0.18- 0.35mm
4	Side limb length	320 ~ 800mm
5	Yoke Length	420 ~ 800mm
6	Max. Core dimension	820x820x250mm



## Cut-to-length Line for Transformer Lamination

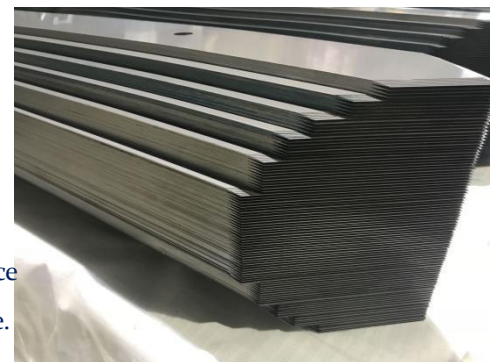


### Application

Cut-to-length line is the special equipment for transformer lamination manufacturing.

### Features

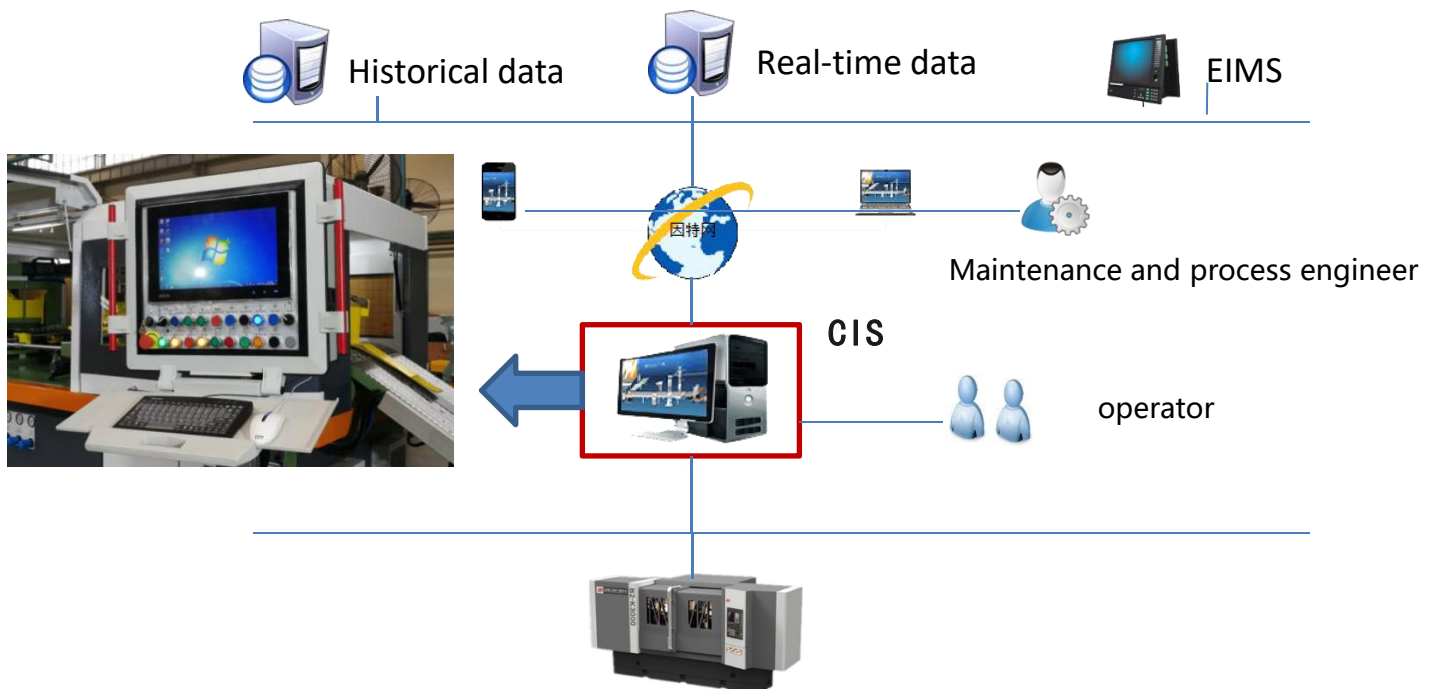
- ◇ SDRI designed servo motor driven feeding system for rapid dynamic response.
- ◇ SDRI designed latest cutting technology and high-speed cutting units
- ◇ High efficient cutting algorithm shortens cutting intervals.
- ◇ SIEMENS Profinet Ethernet communication technology ensures stable performance
- ◇ Integrated design reduces time of installation and commissioning, and saves space.
- ◇ Remote control system



### ◇ SDRI CNC System

Lamination data management, production data acquisition, equipment maintenance management, and energy consumption data management modules

MES system is available for connectivity



## Technical specification

Type	HJX(Dxx)-200	HJX(Dxx)-400	HJX(Dxx)-600	HJX(Dxx)-900	HJX(Dxx)-1000
Parameter					
Width of sheet(mm)	40-240	40-440	60-640	100-920	100-1020
Length of sheet(mm)	350-1300	350-2500	400-3500	500-5000	500-5000
Thickness of sheet (mm)	0.18-0.35				
Feeding speed (m/min)	0-214	0-214	0-214	0-180	0-180
Cutting burr(mm)	≤0.02				
Accuracy of cutting angle	±0.01				
Installed power (kW)	20	27	30	75	75



## Slitting Line for Transformer Lamination

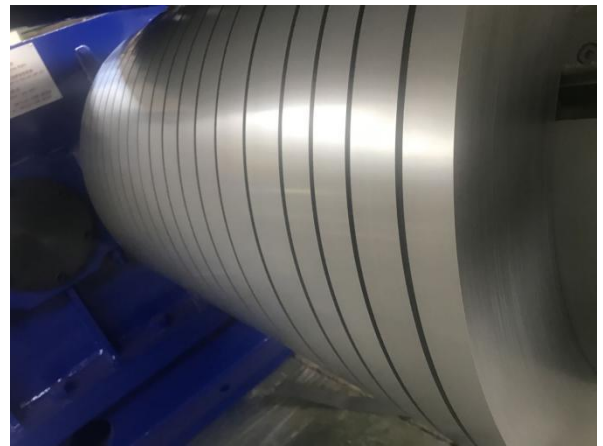
### Application

This slitting line is special for slitting silicon steel sheet coil into strips.



### Features

- ◇ Available for “disc cutter” and “spacer cutter”.
- ◇ Low burr and low camber slitting process due to optimized shear design (high-rigidity Slitter and winding system)
- ◇ Rational design of the machine, all machine units are driven by electrically, pneumatically and hydraulically, efficient and easy to operate.
- ◇ OMRON PLC control system
- ◇ Remote control system
- ◇ Optional for scrap winding or scrap chopper device



## Technical specification

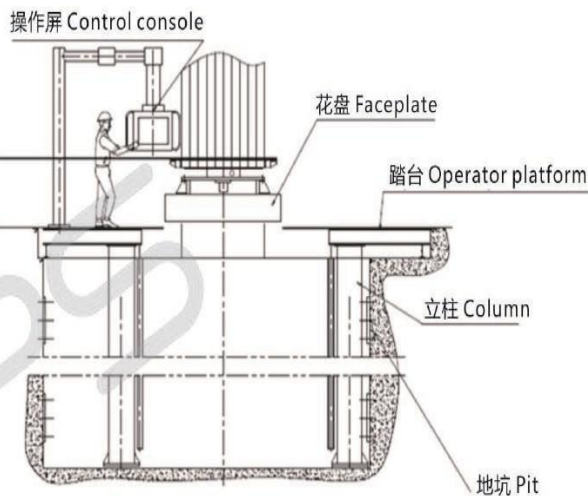
Parameter \ Type	ZJX(05 05)-80/1250	ZJX(10 05)-120/1250	ZJX(10 05)-150/1250	ZJX(10 05)-180/1250
Material thickness(mm)	0.18-0.35			
Max. Width of coil(mm)	1250			
Strip burr (mm)	≤0.02mm			
Strip width (m/min)	40-1240 (Disc cutter) / 30-1240 (Spacer cutter)			
Slitting speed(m/min)	0-80	0-120	0-150	0-180
Number of strips	Max.10 (Disc cutter)			
Straightness deviation of each edge	≤0. 2mm/2m			
Coil weight (kg)	Max.5000	Max.10000	Max.10000	Max.10000
Slit coil weight (kg)	Max.5000	Max.5000	Max.5000	Max.5000

## Vertical winding machine

### Application

The Vertical winding machine is the specialized equipment for power transformers coil manufacture.

### Operation description



### Technical specification

Model	LRJ-10/2000	LRJ-15/2600	LRJ-20/3000	LRJ-25/3000	LRJ-30/3200	LRJ-40/3600
Specification						
Chuck diameter (mm)	1500	1800	2000	2500	3000	3200
Max winding diameter(mm)	2000	2600	3000	3000	3200	3600
Chuck travel distance(mm)	2000	2000	3000	3500	3200	4000
Max load (ton)	10	15	20	25	30	40
Max torque (N·m)	9000	15000	20000	20000	30000	40000
Chuck height (from ground) (mm)	500					
Rotation speed (rpm)	0-10					
Elevating speed (m/min)	0.5					
Tension (N)	7000	7000	10000	10000	10000	10000
Platform Expandable range (mm)	900~2200	1000~2800	1000~3050	1000~3200	1200~3200	900-3700



## Horizontal winding machine

### Application

The horizontal winding machine is the specialized equipment for transformers coil manufacture.

### Features

- ◇ Optional for pressing unit
- ◇ Pressing torque is reliable and setting by operation panel
- ◇ Omron control system
- ◇ Pressing unit driven by motor



## Technical specification

Specification	Model					
	WRJ-5/1500	WRJ(Y)-10/1800	WRJ(Y)-15/2000	WRJ(Y)-20/2800	WRJ(Y)-25/2800	WRJ(Y)-35/3000
Load (ton)	5	10	15	20	25	35
Max coil diameter (mm)	1500	1800	2000	2800	2800	3000
Chuck diameter (mm)	750	1000	1400	1800	1800	2000
Max center distance(mm)	3000	3000	3500	4600	4600	4600
Height of spindle (mm)	1200	1400	1600	1800	1800	1800
Moving distance of tailstock(mm)	2000	2000	2000	2600	2600	2600
Moving distance of pressing head(mm)	500	750	750	750	1040	1040
Spindle speed (r/min)	0~10	0~10	0~10	0~10	0~10	0~7
Max vertical pressing force (kgf)	120	160	160	160	160	160
Max horizontal pressing force (kgf)	250	300	300	300	300	300
Max torque (N.m)	8000	15000	20000	25000	30000	40000

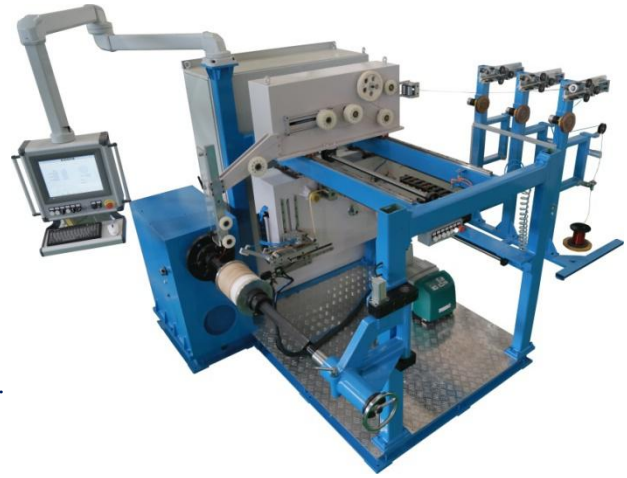
## Automatic winding machine

### Application

Advanced machine used for high voltage winding.  
Layer insulation / end insulation / auto gluing winding  
process to realize automatic winding.

### Features

- ◇ Layer insulation feeding and cutting
- ◇ Layer insulation strip tension is adjustable and stable.
- ◇ Automatic gluing
- ◇ Optional for round wire flattening device
- ◇ Wire tension is adjustable and stable.
- ◇ With high intellectualization. It has the function of studying, online dynamic create and renew coil model. Especially good for the high speed and high accuracy winding of non-standard coil.



### Technical specification

No.	Items	Parameter
1	Load:	1000 kg
2	Swing diameter:	600mm
3	Center distance:	1200mm
4	Speed:	Max. 400rpm
5	Torque under Low speed:	Max: 1200Nm
6	Torque under High speed:	Max: 290Nm
7	Power:	7.5kW
8	Center height:	950mm
9	Conductor diameter	1-4mm
10	Width of strip	15-40mm
11	Strip thickness	0.04-0.12mm

## Layer insulation automatic winding machine

### Application

The layer insulation automatic winding machine is used for medium-small size transformer's high voltage coil and small low voltage coil.

### Features

- ◇ High efficiency and accuracy
- ◇ Graded layer insulation is available
- ◇ Conductor and layer strip winding simultaneously
- ◇ Layer insulation strip tension is adjustable and stable.
- ◇ Wire tension is adjustable and stable.
- ◇ Available for round and flat wire



### Technical Specification

No.	Items	Specification
1	Center height	850mm
2	Center distance	1200mm
3	Winding speed	0 ~ 45rpm/1000Nm 0 ~ 200rpm/300Nm 0 ~ 400rpm/150Nm
4	Load	Max 500Kg
5	Max outer diameter	600mm
6	Max swing diameter	800mm
7	Flat wire size	14mmx4mm
8	Round wire size	Φ1mm~Φ4mm

## Automatic Wire guiding winding machine

### Application

The automatic wire guiding winding machine is an advanced specialized machine for small and middle size distribution transformer coils.



### Features

- ◇ Touch screen for easy operation
- ◇ High accuracy wire guiding
- ◇ The movable tailstock, easy for unloading & loading coils.
- ◇ Available for round and flat wire
- ◇ Full width insulation paper is easy for loading and clamping



### Technical specification

No.	Items	WZR-1/1200	WZR-2/1600
1	Max load	1000 kg	2000 kg
2	Outer diameter of winding	600 mm	600 mm
3	Wire ranking direction	Double direction	Double direction
4	Clearance between chuck and tailstock	1200 mm	1600 mm
5	Winding speed	0-375 rpm	0-375 rpm
6	Round wire diameter	1-4mm	
7	Flat wire size	Max.4x14mm	

## Foil winding machine

### Application

The machine is the special equipment for manufacturing low voltage coil of transformer.



### Features

- ◇ Tension is stable during operation
- ◇ Offset regulating system for high efficiency
- ◇ Foil tension, insulation tension adjustable and stable
- ◇ Video monitoring for foil shearing
- ◇ Material feeding easily
- ◇ Optional for cold press welding



## Specifications

Parameter \ Model	BRJ(S1)--700	BRJ(S1)--1000	BRJ(S2)—1000	BRJ(S2)—1400
Width of foil (mm)	150--700	300--1000		500--1400
Outer diameter of coil (mm)	150--600			200--800
Thickness of foil(AL) (mm)	0.5—2.0			
Thickness of foil(Cu) (mm)	0.5—1.6			
Winding speed (rpm)	0--30			0--20
Max. tension (KN )	8	10	10	20
Welding mode	TIG / Cold press welding			
Welding speed (m/min)	≤0.5			
Offset regulating accuracy (mm)	±0.5			

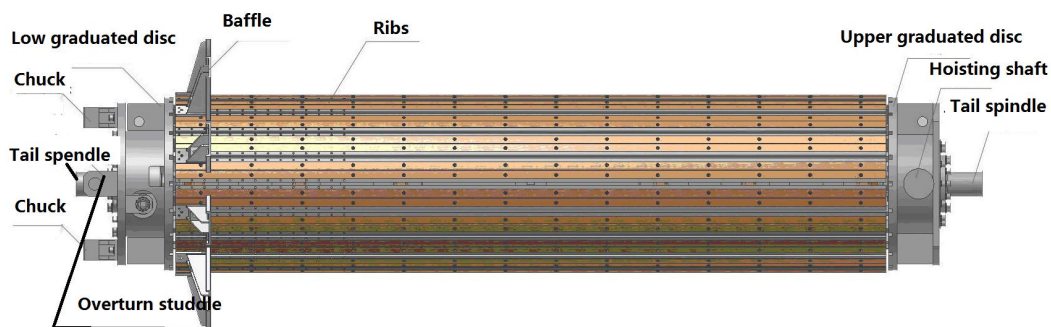
## Expandable mandrel

### Application

The expandable mandrel is auxiliary equipment of winding machine, It will be special designed by the size of coils.



### Machine composition



Basic part



Spindle head



Centre



Batten

Reducer



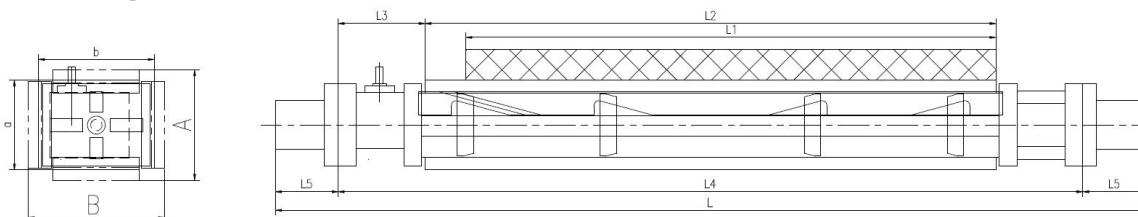
Stopper



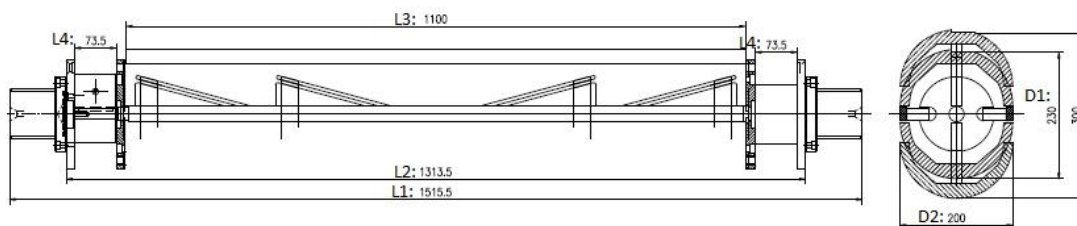


## Structure of Mandrel

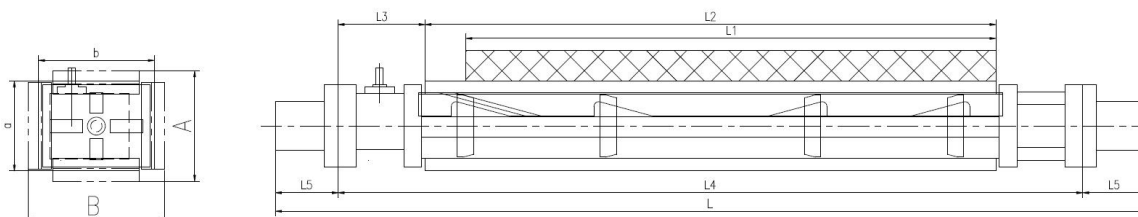
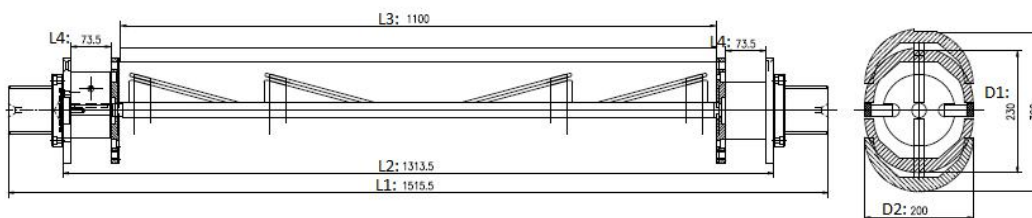
### Rectangular shape



### Oval shape



### Round shape



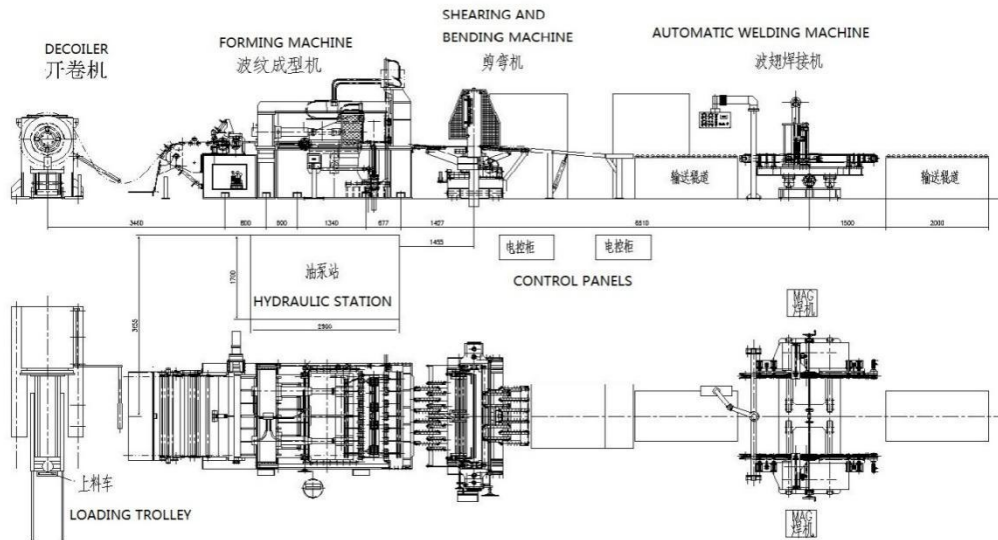
## Corrugated tank forming and welding machine

### Application

The corrugated tank forming and welding line is the special equipment for manufacturing transformer oil tank.



## Structure and specification



Items	BBX-1300	BBX-1600
Fin Width(mm)	350-1300	350-1600
Plate thickness (mm)	1.0-1.5	1.0-1.5
Length of plate(mm)	≥290	
Fin height (mm)	50-400	50-400
Fin pitch(mm)	40-80	
pitch accuracy(mm)	±0.25	
Inner gap (mm)	6	