

Model \_\_\_\_\_ Film Blowing Machine

# Operation Instruction

Zhejiang Chaoxin Machinery Co., Ltd

Add: No.118 Daohang Road, Wanquan Industrial Zone, Pingyang County,

Wenzhou City, Zhejiang Province, P.R.China 325409

Tel: +86-577-63839988, Mb: +8615968798999

Fax:+86-577-63556088

Website: [www.zjchaoxin.com](http://www.zjchaoxin.com)

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## Chapter 1: Summary

Zhejiang Chaoxin Machinery Technology Co., Ltd. is a professional manufacturer specializing in film blowing machines (including fully biodegradable film blowing machines, three-layer co-extrusion film blowing machines, ABA film blowing machines), printing machines, and bag-making machines. With years of experience in mechanical design and manufacturing, the company adheres to the business philosophy of "people-oriented," "technological advancement of the factory," "integrity management," "quality first," "6S management," "three-guarantee after-sales service," and "customer satisfaction." Not only does it possess advanced processing workshops and quality inspection standards, but it has also been awarded the ISO 9001:2000 Quality Management System Certification by Hartford Global Standards Certification Ltd.

Continuously from 2018 to 2021, the company has been recognized as an advanced unit of high-tech enterprises in Pingyang County. We provide lifelong maintenance for all products sold and offer customers economical and portable budget solutions. Chaoxin Machinery Technology is willing to join hands with friends from all walks of life, both domestically and internationally, to create brilliance together! Our registered trademark is "CX | Machinery Technology."

Company Tenet: Crafting quality products, operating with integrity.

Note: Before starting the machine, please carefully read this manual. If the machine is damaged due to improper operation as per the instructions, our company cannot bear responsibility. Your understanding is appreciated.

## **Chapter 2:Usage**

Our company produce \_\_\_\_\_model film blowing machine, it can make grade 1-3 HDPE/LDPE, and recycling material production.

It can produce film thickness \_\_\_\_\_mm, folding width \_\_\_\_\_mm. The film can apply for food package , industrial package and agriculture film, etc.

## Chapter 3: Features

This machine absorbing the advantages of the domestic and foreign extruder, is with good structure, computer control, highly automatic, easy operating and low consumption. The advantages or differences from the common extruder are as below:

1.The screw and barrel, made of the high quality carbon steel, can work for a long life.

2. The screws design adopts four-line milling head, good plasticization, high output, and low consumption.

3.The die head with centre feeding helix die head, can make the film's thickness more even and better and it is very easy to use.

4. Bubble guider device ensure the film is stable. All kinds of chromate treatment of roll surface ensure the fine appearance of the machine and easy operation.

5.The main motor and the traction motor adopt inverter to adjust the speed , which can save electricity more than 15%.

6. Automatic heating temperature controller. The working temperature can choose from 0°C to 200°C , and can using correctly.

7.The tractor adopts horizontal swing rotation replaces die rotation and simplifies die structure, it solves problems of leakages, poor sealing and maintenance, etc. Arising from die rotation, ensures good film smoothness.

## **Chapter 4: Main technical data**

Extruder Screw diameter:

L/D:

Main motor power:

Heat way:

Winder way:

Max. film blowing width:

Max. film blowing thickness:

Max. extrusion output:

Machine outline dimension:

Weight:



## Chapter 5: Machine Construction and Usage

This machine is composed of Extruder , Tractor Auxiliary, Air Compressor , Distributing box, Blower and Winding Unit ,etc.

5.1 Extruder is composed of motor, gear reducer, screw, barrel, die head and so on. The screw is driven by motor through gear reducer, and screw can control and adjust the speed. The raw material is absorbed by loader , when it's reached hopper will into cylinder, then be pushed ahead by rotating screw, heated and compressive plasticized by outside heater band of barrel to be solution, then enter into die head via three-through, finally extruded from die orifice to be tubular film.

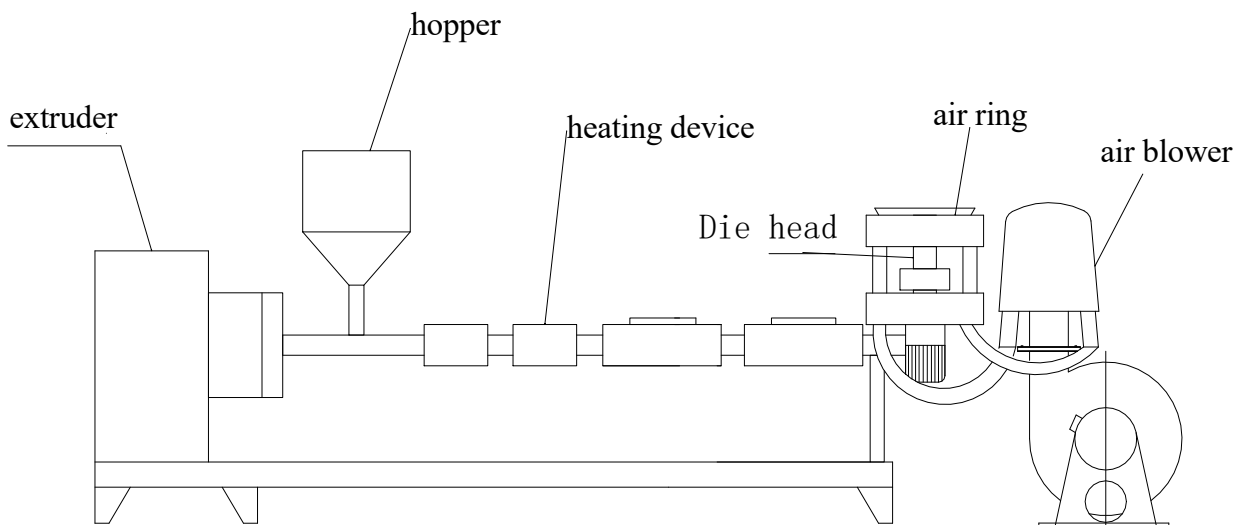


Diagram 1-Extruder System

5.2 Traction Auxiliary is composed of frame, sheer leg, traction roller, driving lever, friction plate, winding roller, etc. Driven by traction motor, the tubular film which extruded from die orifice will be pulled up to sheer leg, then passed into hold down roller and to be pressed flat, then winded

through guide roller. The up-down adjusting mechanism can move the whole traction mechanism up and down through lifting screw, thereby to control the film tension level.

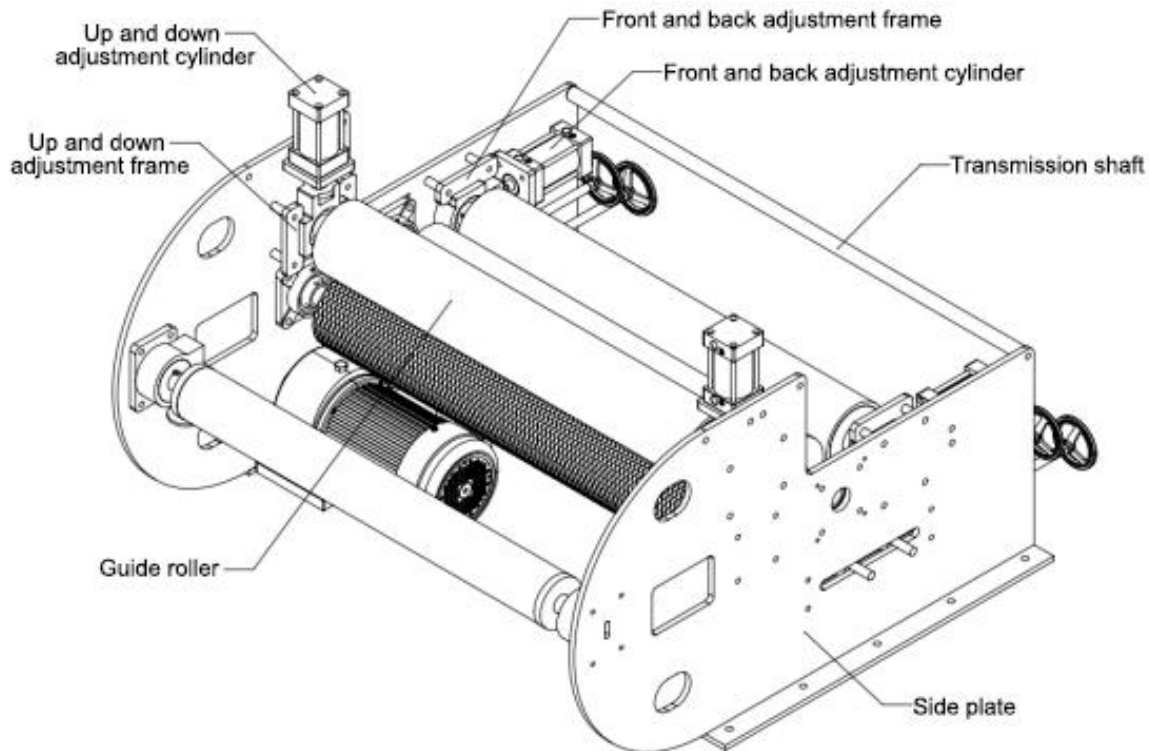


Diagram 2-Traction Auxiliary

5.3 Air Ring is composed of up and down units, blast pipe and air blower. Via blast pipe and air ring, the air blower blow cold air evenly to discharge part of die orifice, for cooling the tubular film. And there's a regulating device on air ring, which can control the blowing rate.

5.4 Air compressor: make the compressed air get into tubular film from die head through air pipe and air valve, and blows the film to required width.

5.5 Winding system: the film which has been pressed smoothly, get into press roll through guide roll, then via press roll go to the big rubber

roll. The big rubber roll is drove by wind motor, which can make the film wind up to collect roll automatically, that is auto- winding.

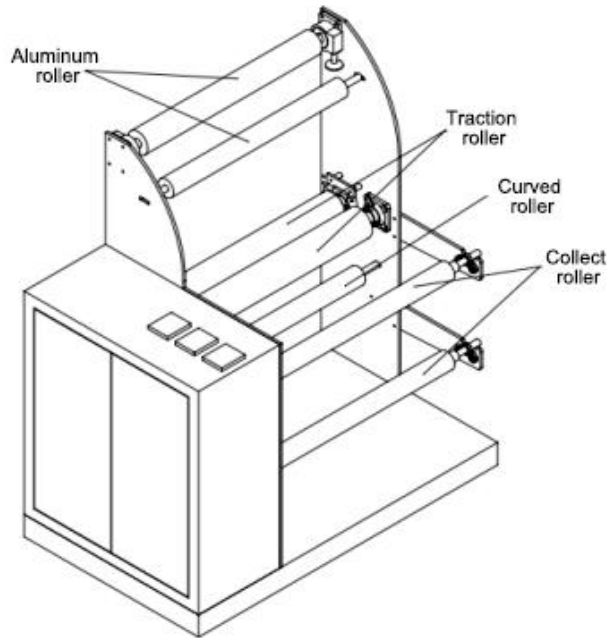


Diagram 3-Central Winding System

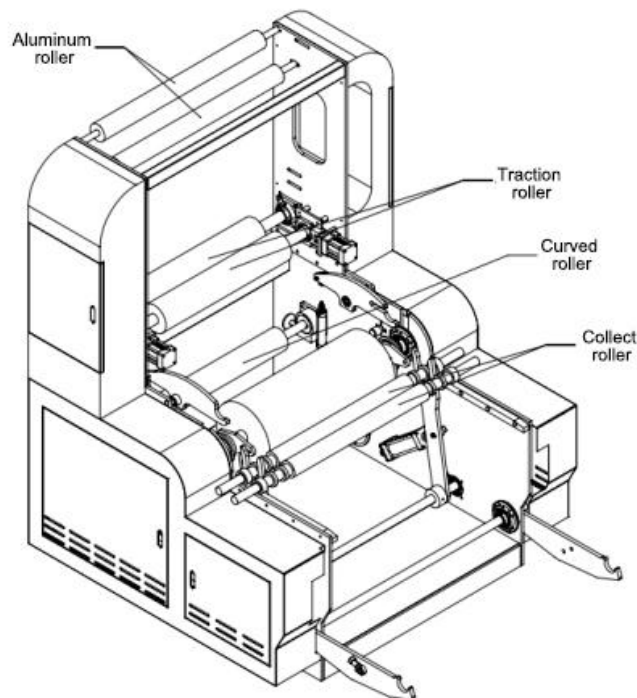


Diagram 4-Single Automatic Winding System

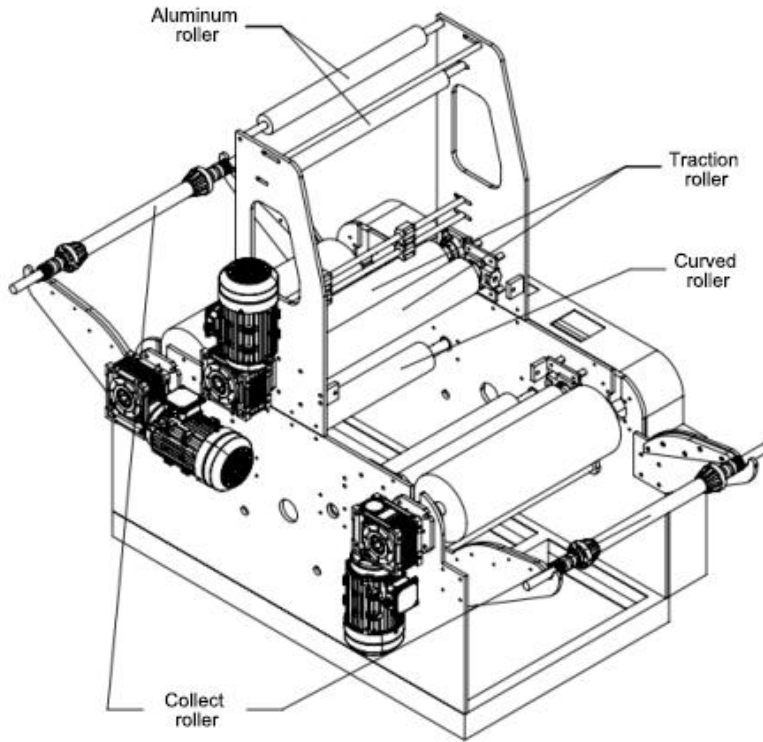


Diagram 5- Double Automatic Winding System

5.6 Distribution Box: Install with the electrical elements, and controls the running and heating of entire unit.

## Chapter 6: Operating Instructions

We need to clean around before operating, Check every parts is put away well. Check every connections is firm. Check every rotating parts is smart. Check every adjustive bolt is suitable . Check the rotor wheel 's safety guard and electric element creepage safe protection is complete. Check motor's running direction is right . When the machine unit is heating , then start the power switch , Check every electric element indication is normal . If normal condition, then start the power switch again for heating the barrel and screw . The temperature is temperature controler adjustment and auto controler . When the temperature reach to plastify requirements, Pls keep the constant temperature, then start the extruder's motor with screw running , in order to dissolve the plastic to extrude.

After the material match with technological requirements, pull the bubble tube by manual . At the same time, to start the air ring , air blower and air compressor , then pull the bubble tube to pass the "人" splint (the "人" splint is opened about  $30^{\circ}$  ), enter into traction nip roller. Because of traction & stretching and pressor blowing to form film bubble tube . At this time , we need note to adjust well the air out of air ring and Compressed size, keep the taction speed match with the blowupratio. After normal condition , enter into winding roller to wind the film . The winding speed is adjusted by torque motor voltage regulator match frictional

disk's adjusting spring. And make the pull steady. After the winding roller take up to a certain diameter roll film, Can cut the film and take the finished film .

## Chapter 7: Notice

1. Due to may broken the electric element or fall the thread etc when transportation, need first check strictly. In order to assure person safety, need connect earth wire before start running, then connect power, check every position strictly again and click run whether is ok. and attention whether have creepage.

2. Need attention the centre line extruder head keep horizontal and vertical alignment with the traction roller centre when installation, don't deviate and skew.

3. Due to winder's outer diameter gradually increases when winding, need attention the traction speed match with the winder speed, adjust the pressure of frictional disk in time.

4. Before starting, need check the inner of extruder, don't allow have the scrapiron, miscellany etc to avoid effecting the quality and the life of machine.

5. After starting the main motor, pls keep an eye on the running situation, adjust, amend, electrical instruments, controller in time to assure normal running.

6. Main motor gear box, traction reducer need add oil regularly, change the lubricating oil, every turn parts. Pls attention add oil avoid stucking and too hot will be broken. Also need check every connection parts is firm, avoid the bolt loose.

7. Need clean the filter of extruder inner head regularly, avoid blocking, avoid mixing the scrap iron, sand and gravel with the plastic granule, avoid damaging the barrel and screw.

8. Strictly prohibit testing the machine without material, don't start the main motor when the temperature of barrel, three-through zone, die head not enough.

9. Start adjust motor, first need gradually increase speed after starting motor; Close the adjust motor, need first reduce speed then stop.

10. Before stop, must empty the material in the barrel, avoid blocking the feeder.



## **Chapter 8: Maintenance**

Proper use and maintenance to ensure normal operation and extending the service life of the machine.

1. To oil moving parts and sliding guide parts of the machine twice each work shift.
2. To oil transmission chain and gear twice a week.
3. To oil rocker arm bush (fulcrum) once each work shift.
4. To oil and drain air source triplet in time, so as to make the pneumatic components work properly
5. The gas tanks should drop water once each work shift.
6. Please power off the machine in time when not using it.

## Chapter 9: Common fault and Elimination

No.	Fault	Cause	Elimination
1	Can not pull the traction	<ol style="list-style-type: none"> <li>1.The die head temperature is too high or too low.</li> <li>2.The difference of single side thickness is too big.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust the die head temperature.</li> <li>2. Adjust the single side thickness</li> </ol>
2	Pipe deflection	<ol style="list-style-type: none"> <li>1.The machine body and die is over-heat.</li> <li>2.The edge joint temperature is too high.</li> <li>3.The film thickness is uneven</li> </ol>	<ol style="list-style-type: none"> <li>1. Lower temperature of machine body and die properly.</li> <li>2. Lower the edge joint temperature properly.</li> <li>3. Adjust the film thickness.</li> </ol>
3	Have white soft or scorched particles	<ol style="list-style-type: none"> <li>1. Other impurities mixed in material.</li> <li>2. The filter screen is broken.</li> <li>3. Resin decomposed.</li> <li>4. PVC isn't mixed well.</li> </ol>	<ol style="list-style-type: none"> <li>1. Sift the material.</li> <li>2. Change the filter screen.</li> <li>3. Clean the machine.</li> <li>4. Strictly control kneading and material-making processes.</li> </ol>
4	The film surface is not clear	<ol style="list-style-type: none"> <li>1. The machine body or die temperature is too low.</li> <li>2. Screw runs too fast.</li> <li>3. Screw temperature is too high or too low.</li> <li>4.PVC formula is unreasonable (lead salt stabilizer or hardy plastic agent is too much)</li> </ol>	<ol style="list-style-type: none"> <li>1. Rising machine body or die temperature。</li> <li>2. Reduce running speed.</li> <li>3. Adjust the flow of screw cooling medium.</li> <li>4. Improve the formula.</li> </ol>
5	The film thickness is uneven	<ol style="list-style-type: none"> <li>1.The die head design is unreasonable.</li> <li>2. Mandrilcenter deformed</li> <li>3.Non-uniform temperature of die head.</li> <li>4. Blow-up ratio is too high.</li> <li>5.Cooling isn't uneven.</li> <li>6.Air compress is unstable.</li> </ol>	<ol style="list-style-type: none"> <li>1. Modify technical data of die head.</li> <li>2. Change mandril.</li> <li>3. Check the die head heater.</li> <li>4. Reduce blow-up ratio.</li> <li>5. Adjust the flow of cooling medium.</li> <li>6. Repair compressor pump.</li> </ol>
6	Wrinkle	<ol style="list-style-type: none"> <li>1. The die head didn't installed correctly.</li> <li>2. The film thickness is uneven.</li> <li>3. Chilling is not enough or uneven.</li> <li>4. The clamp or traction roller isn't at the center of die head.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust the levelness of die head.</li> <li>2. Adjust film thickness.</li> <li>3. Adjust cooling unit or lower linear speed.</li> <li>4. Adjust to center-line.</li> <li>5. Decrease the angle.</li> </ol>

		5. Included angle of clamp is too big. 6. The elasticity of traction roller is inconsistent 7. Wind tension is not stable.	6. Adjust the traction roller. 7. Adjust the friction force.
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## Chapter 10: Packing List

No	Name and Specification	Unit	Quantity
1	Film blowing machine	set	1
2	Manufacturer's Instruction	piece	1
3	Certificate of Approval	piece	1
4	Inner Hexagon Spanner 4、 6、 8、 10、 12、 14、 16mm	piece	1 piece each model
5	Solid Wrench 8-10、 14-17、 17-19、 22-24 (mm)	piece	1 piece each model
7	Sharp-nose Pliers	piece	1
9	Screw Driver with shape “-”、 “+”	piece	1 piece each model
10	Oil Gun	piece	1

## Chapter 11 Diagram for Film Blowing Machine, Circuit, Film threading

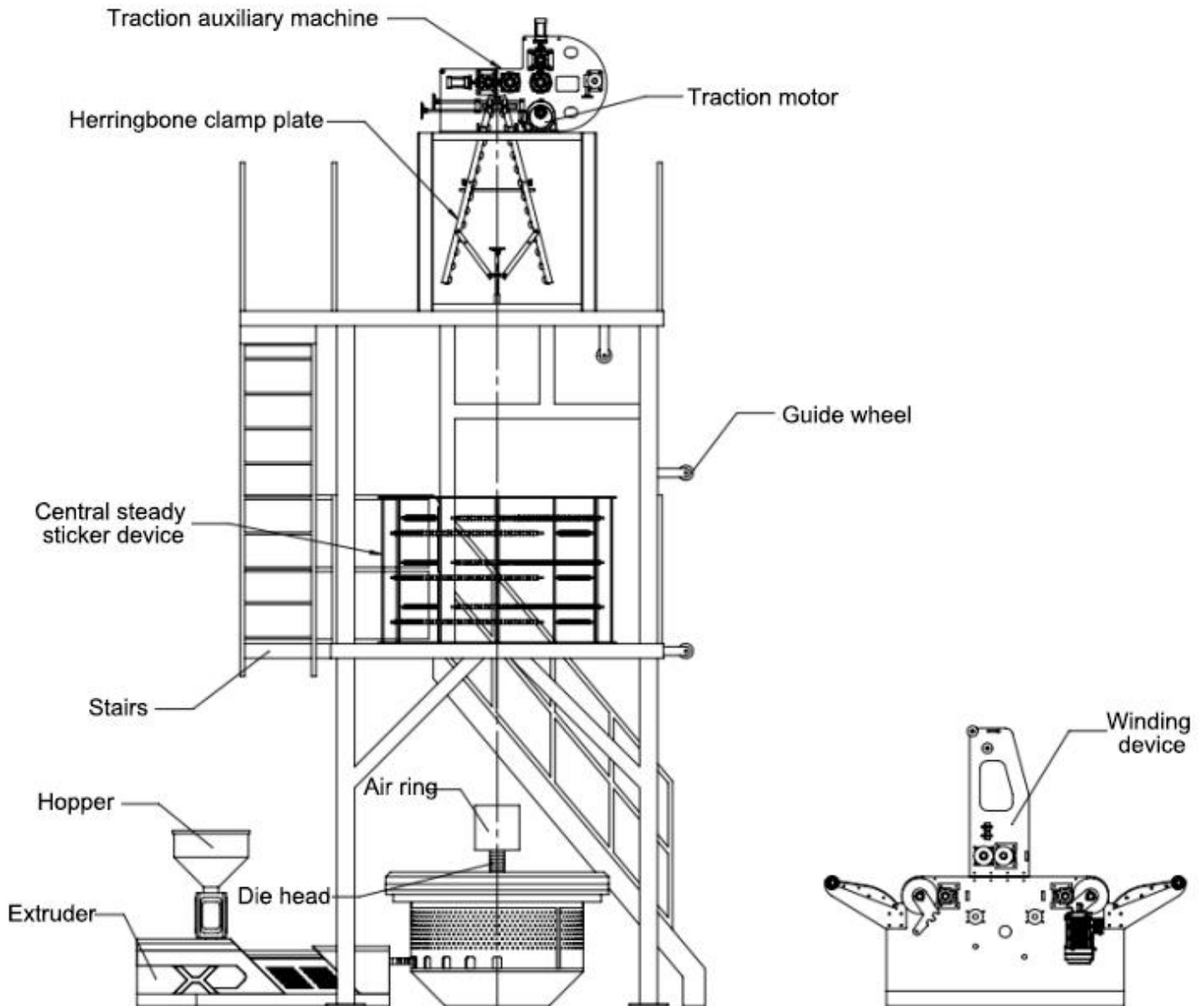


Diagram 6-Blown Film Machine

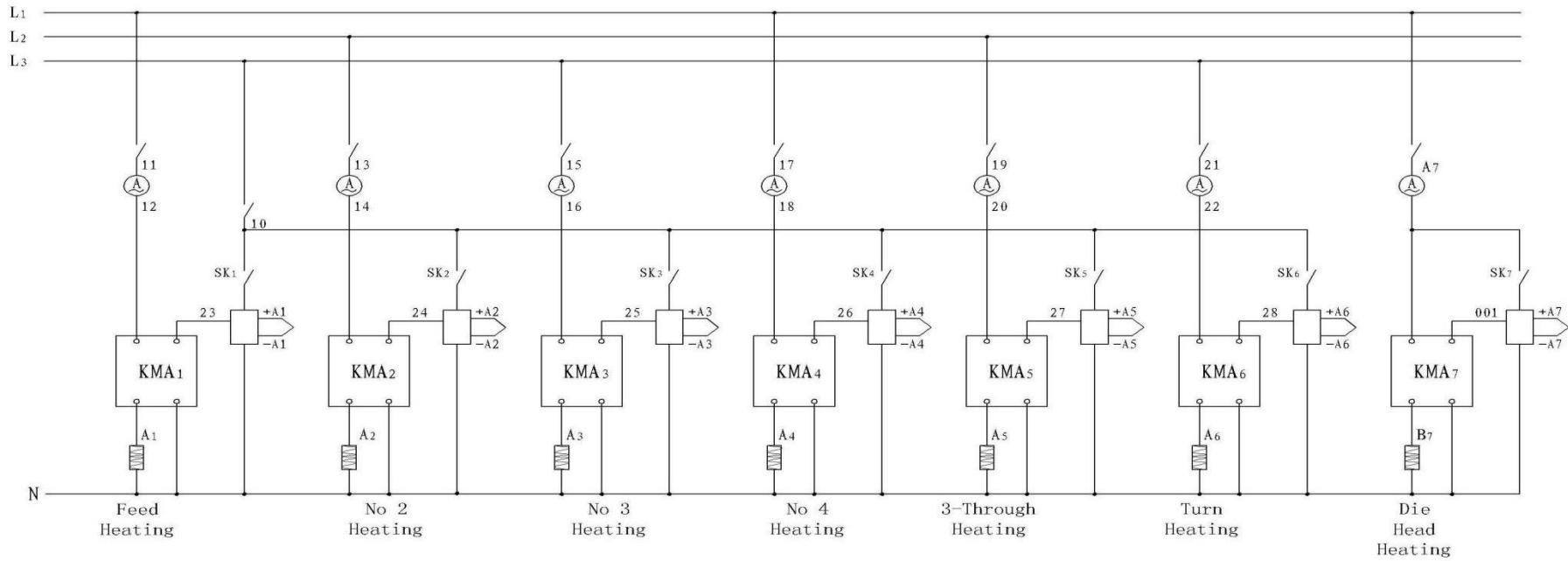
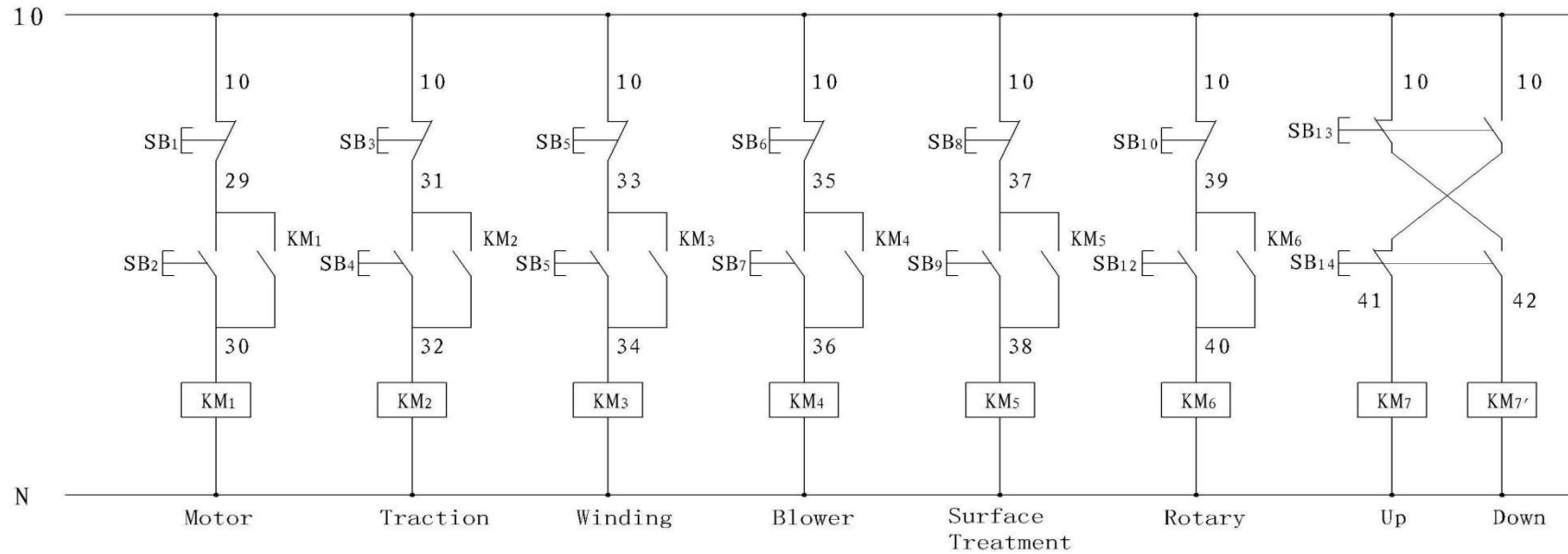


Diagram 7-Circuit 1



SB1:Main Motor Stop	SB9: Surface Treat Stop
SB2:Main Motor Start	SB10:Surface Treat Start
SB3:Traction Stop	SB11:Turn Stop
SB4:Traction Start	SB12:Turn Start
SB5:Roll Stop	SB13:Pulling Up
SB6:Roll Start	SB14:Pulling Down
SB7:Wind Stop	
SB8:Wind Start	

Diagram 8-Circuit 2

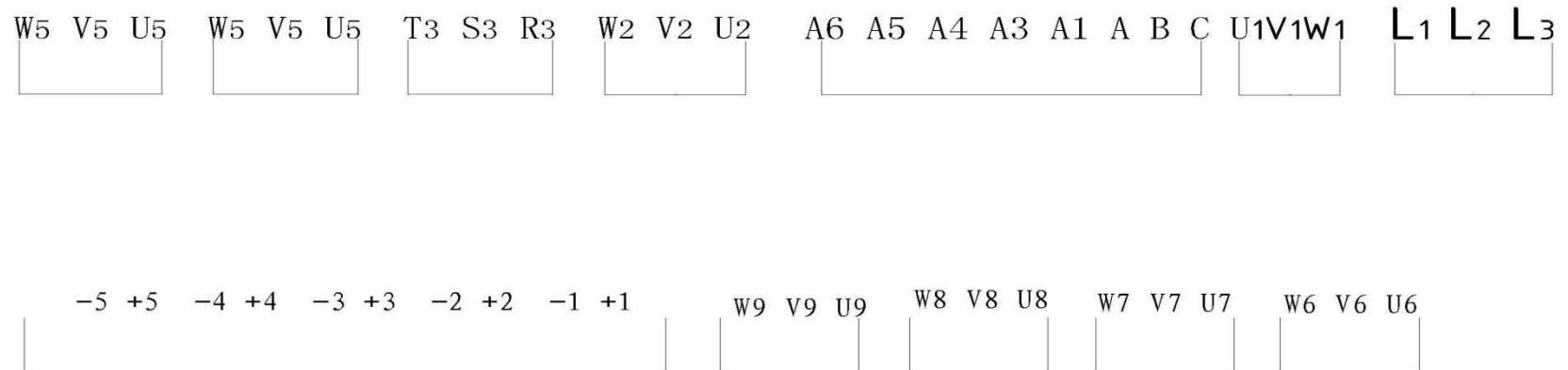


Diagram 9-Circuit 3



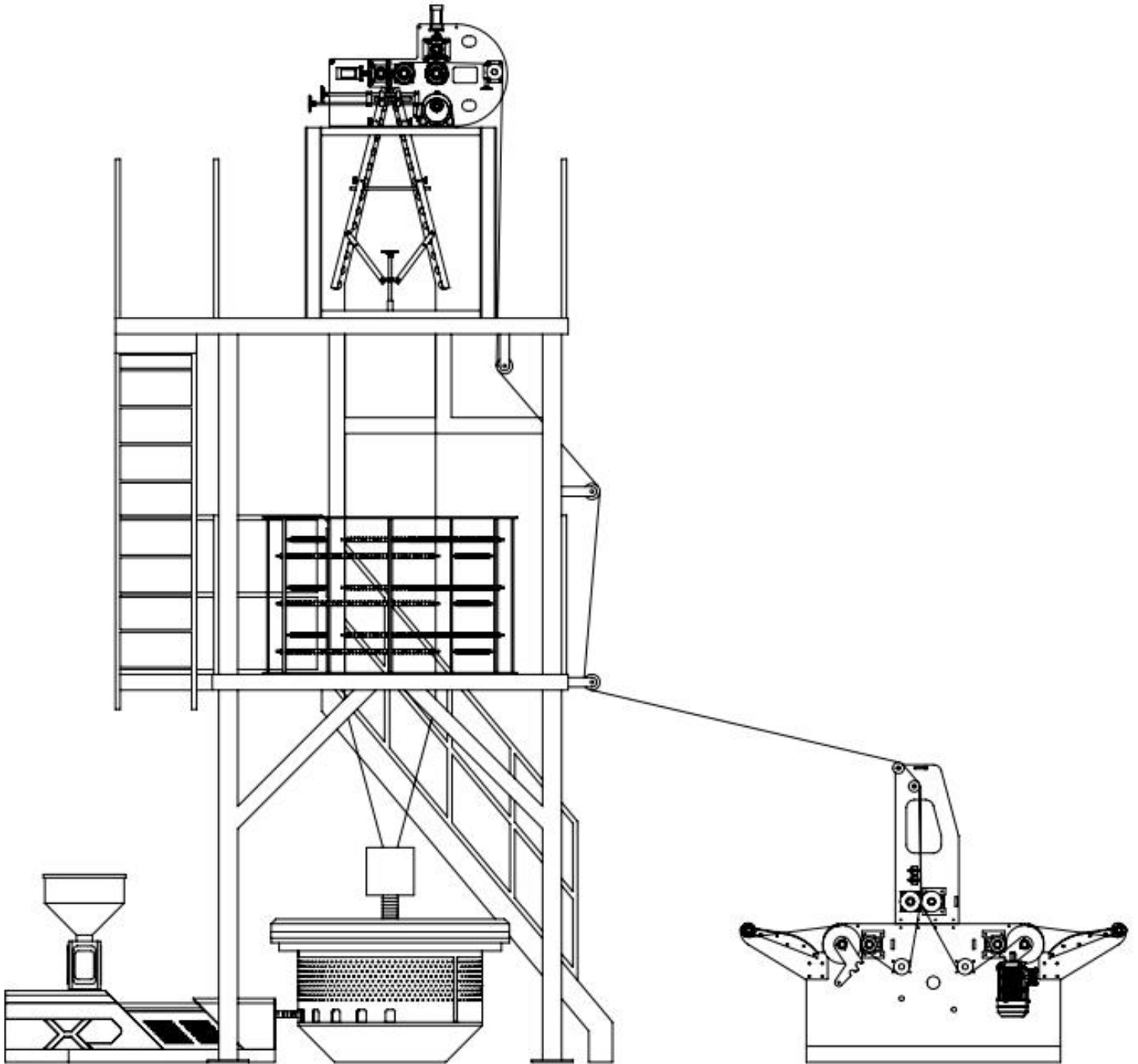


Diagram 10-Film Loading Schematic

## Chapter 12: Equipment Diagram

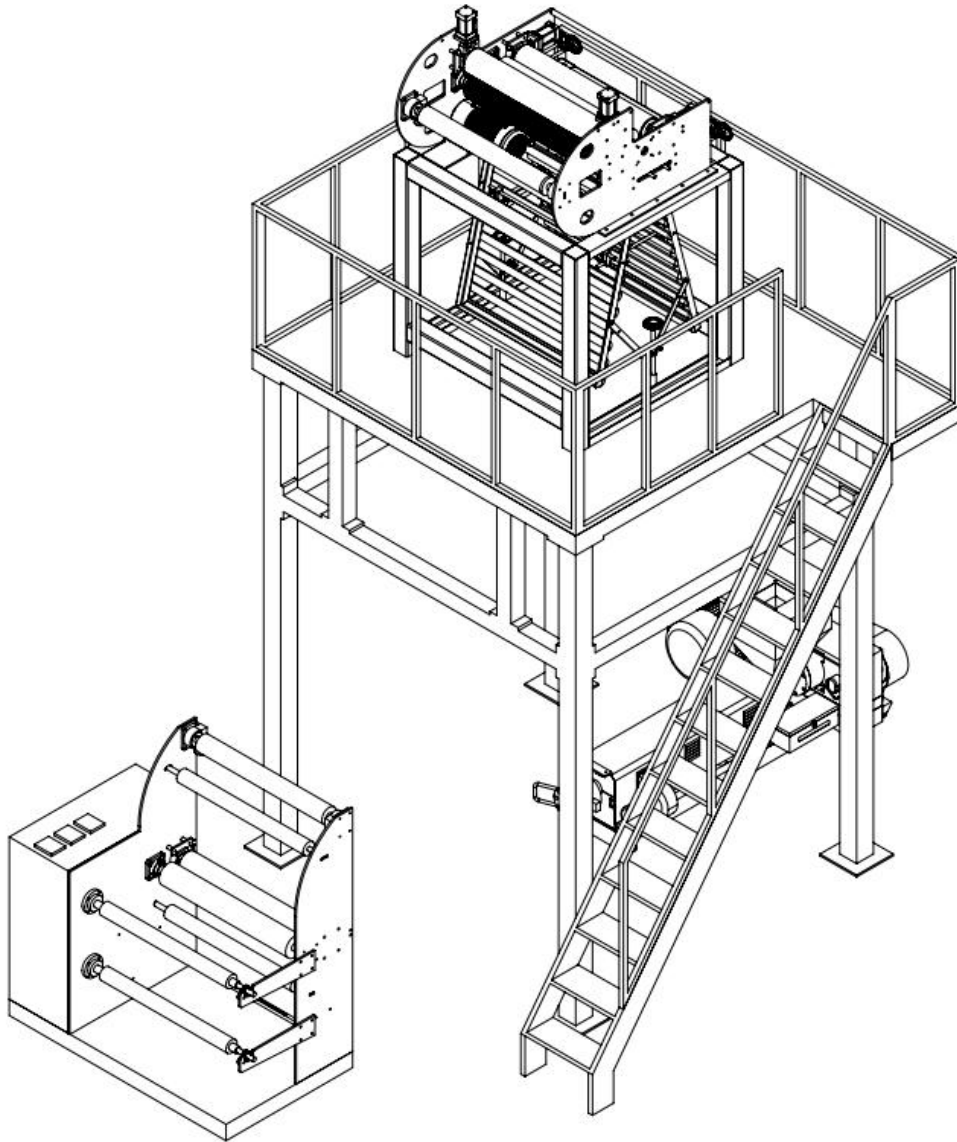


Diagram 11-Blwon Film Machine with Central Winder

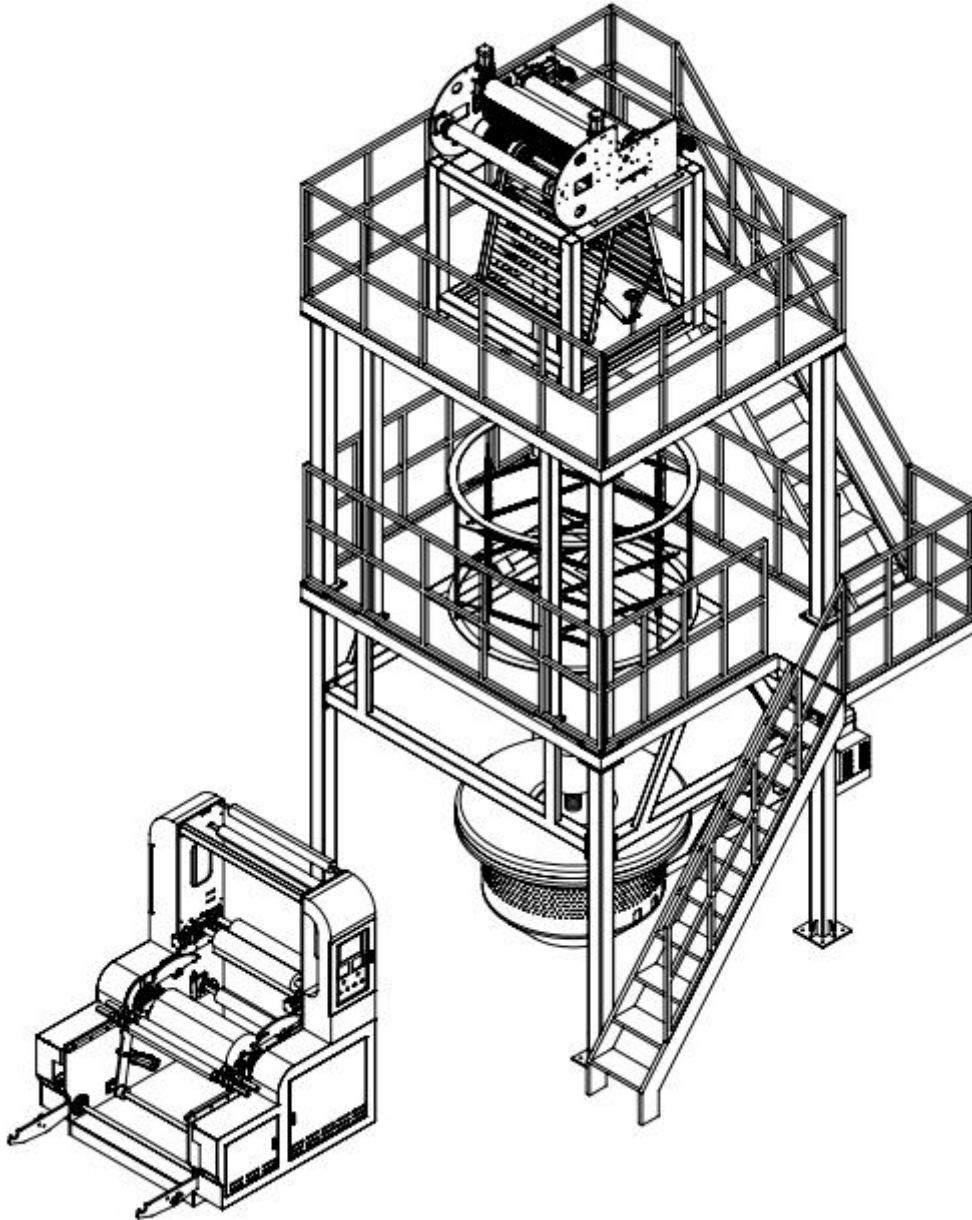


Diagram 12-Blwon Film Machine with Single Automatic Winder

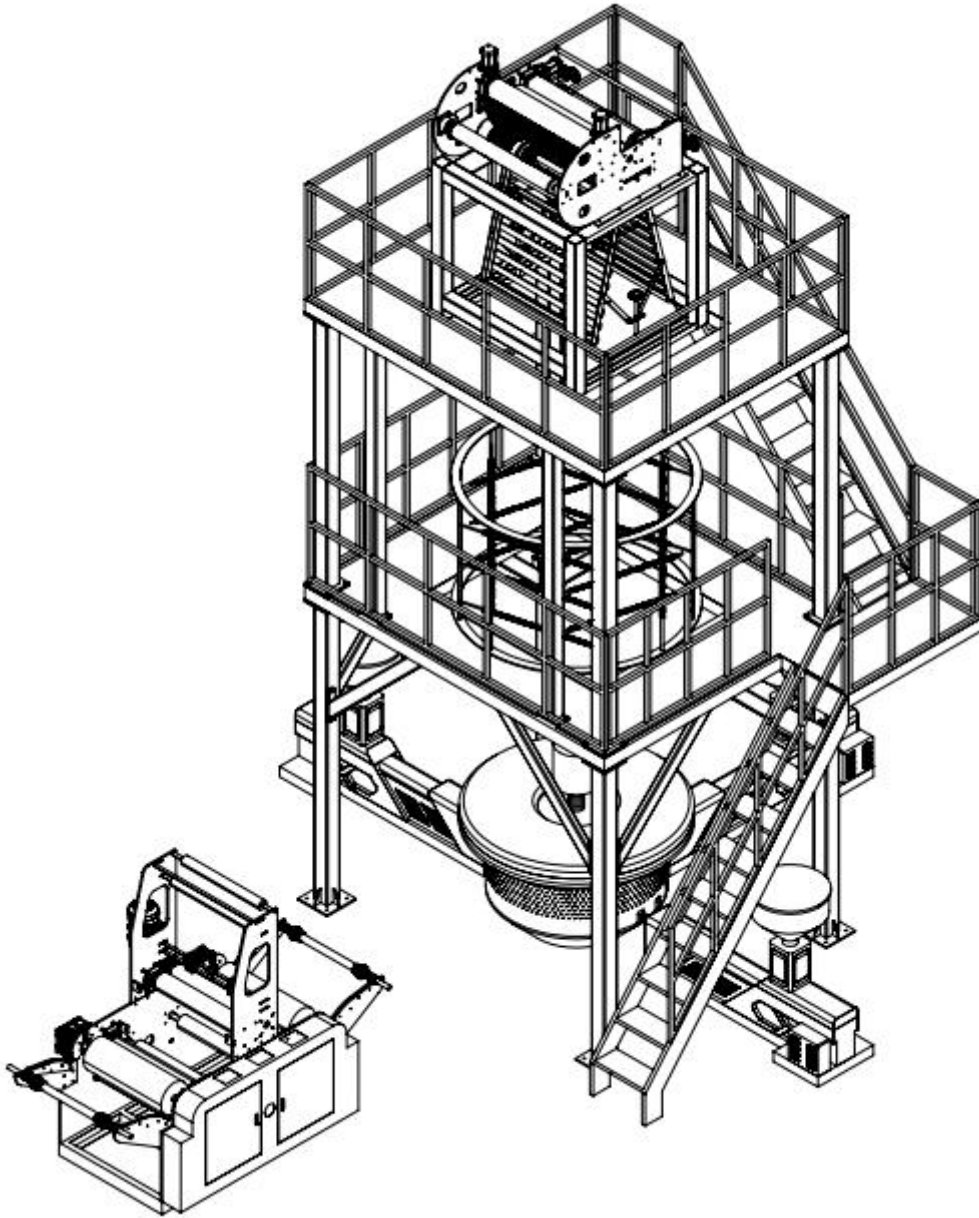


Diagram 13-Blwon Film Machine with Double Automatic Winder

## Chapter 13: Outer Frame Assembly Instructions

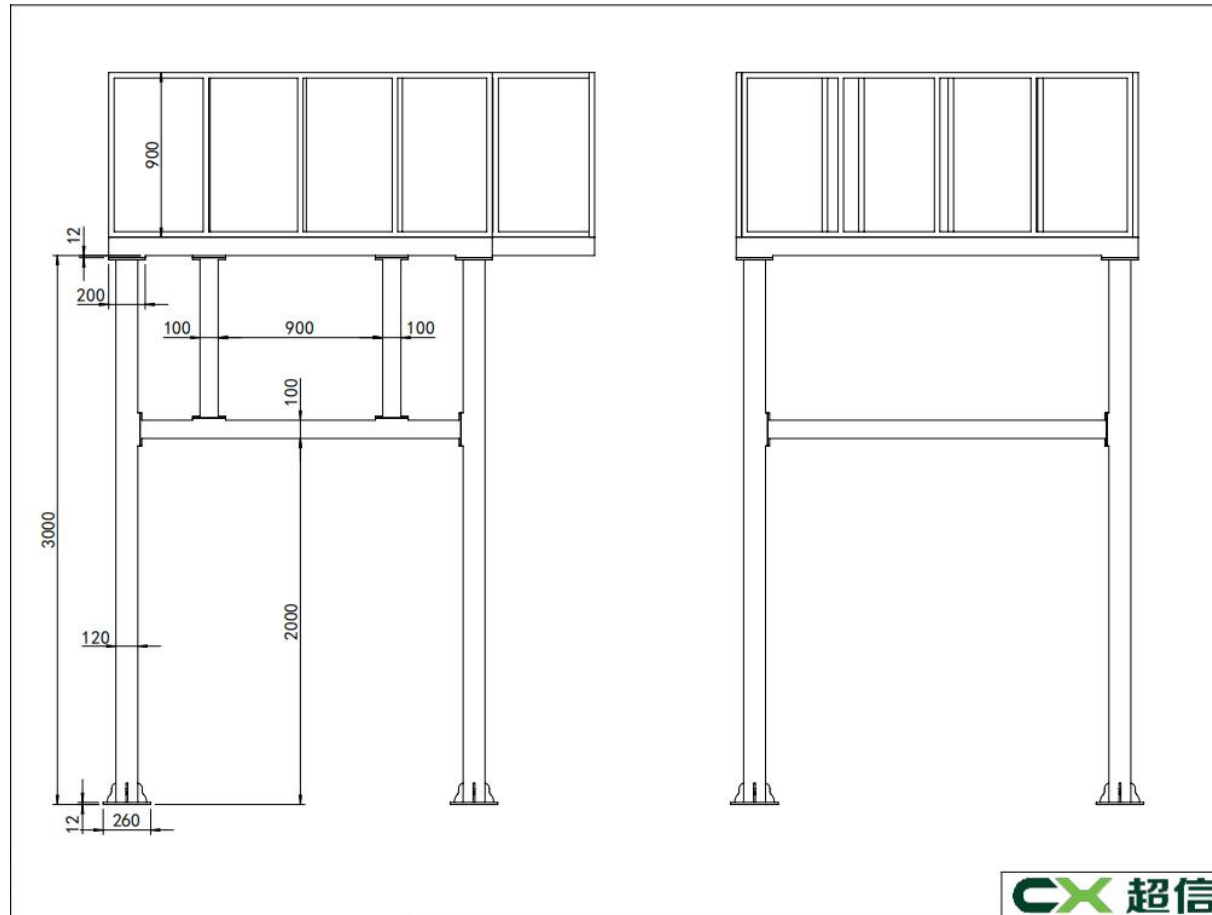


Diagram 14-Frame 1

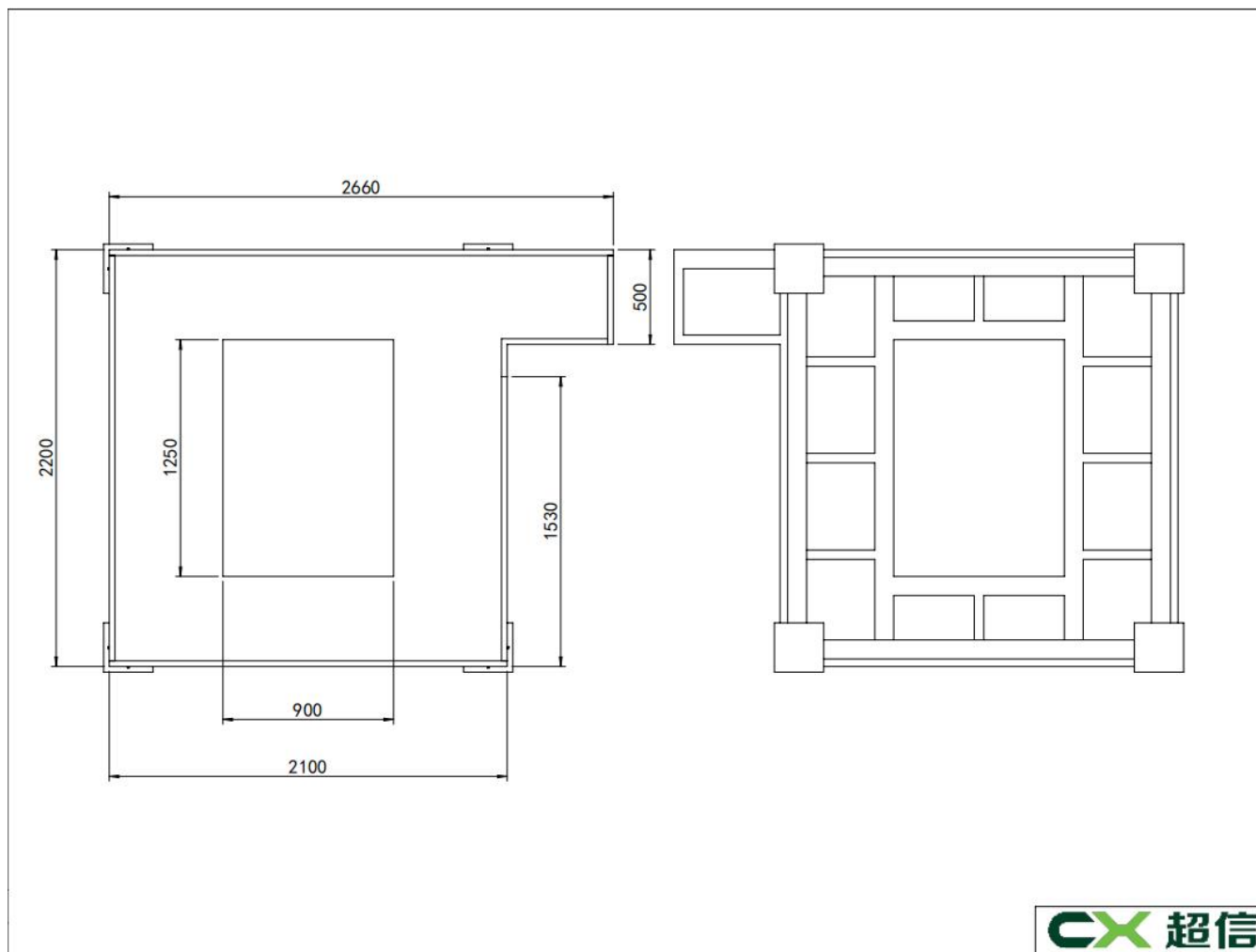


Diagram 15-Frame 2



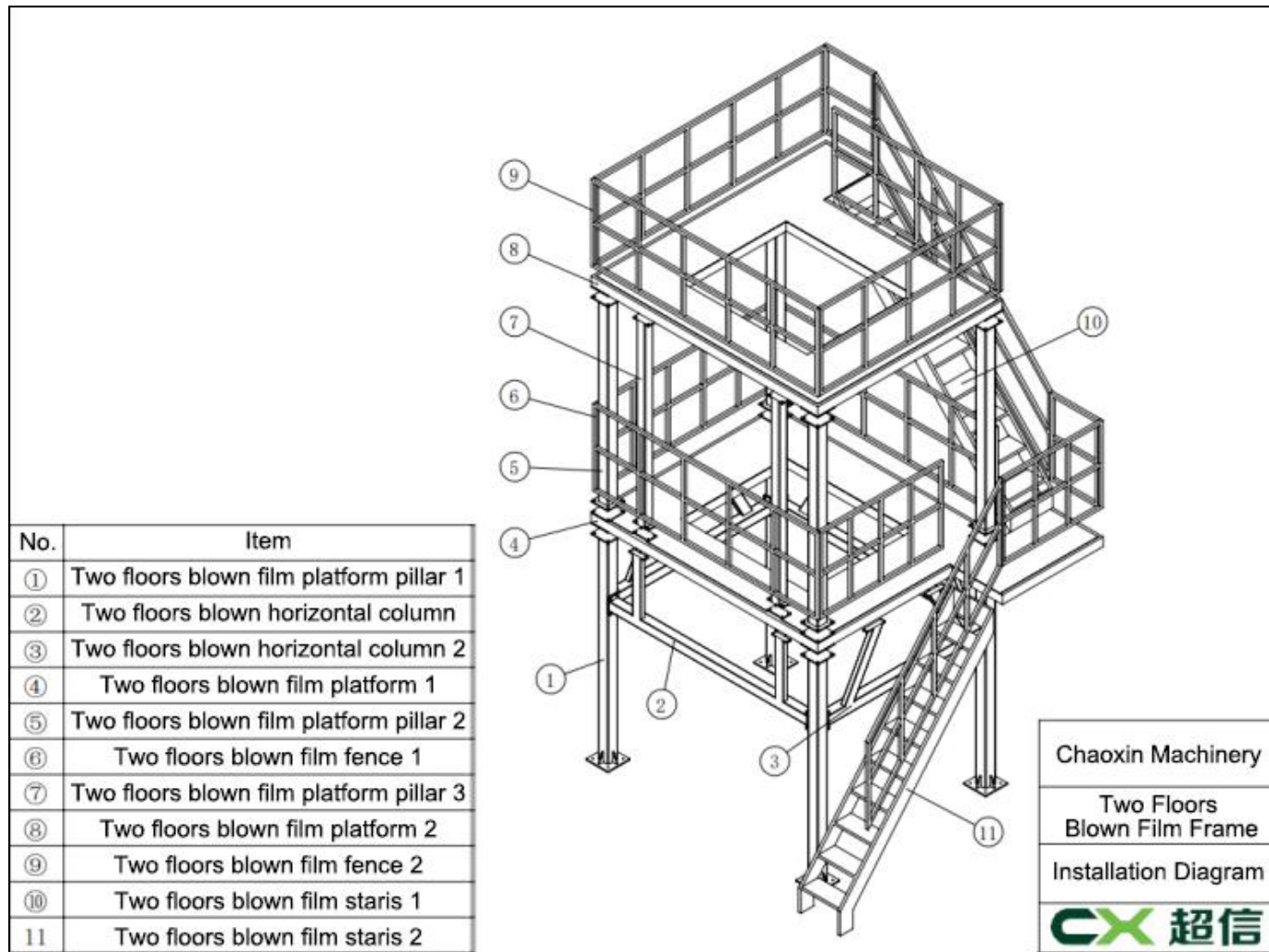


Diagram 16-Frame 3

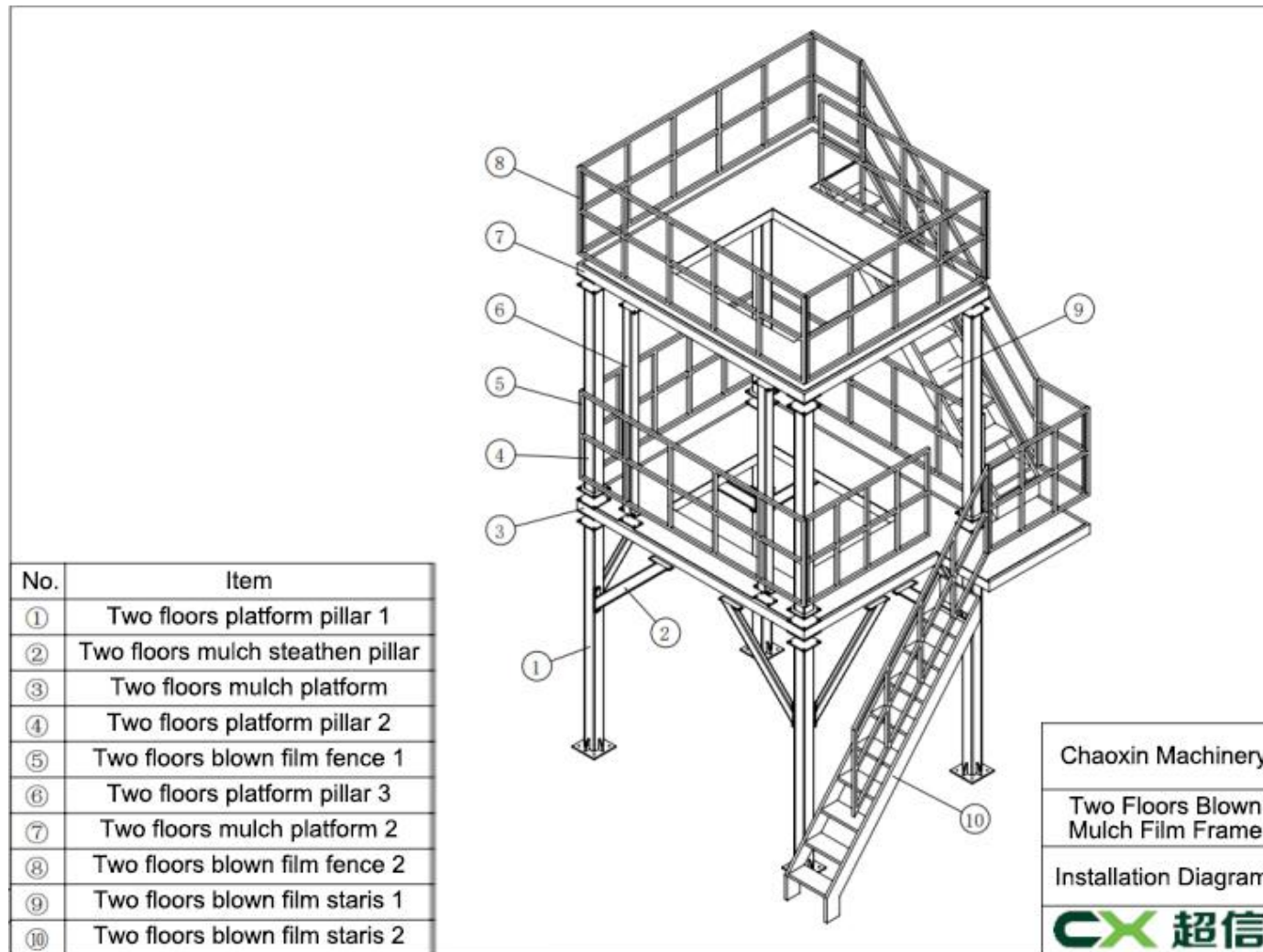


Diagram 17-Frame 4



## **Chapter 14:Service Term**

1. Our company will follow the contract strictly, performance of the contract. All the machines must leave factory after test qualified, customer inspection. Machine warantee: one year.
  2. We supply perfect sales service (eight program),be responsible for the buyer, and sending the engineer to train .Our company also can engage engineer on behalf of customer. Our engineer will teach the buyer's workers to learn the technicaluntil the worker learn it.and the buyer should pay for all cost of that.
  3. we supply all spare parts for customer for long time.and we only take the cost, No take profit.
  4. In order to help customer save cost, and make facilitate, our company can help Customer do the transportation service. And contact the track.
  5. If customer meet the difficulties when using the machine, he can ask my company directly, and ask engineer do the train and technical transfer.
- We are pleasure to do the service for customers.