



ChangZhou TengChao Machinery Co.,Ltd

Ultrasonic Quilting Machine

Operation Instructions



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1. Descriptions

TC Series Ultrasonic Quilting Machine is the first generation ultrasonic quilting machinery in China. It adapts the principle of ultrasonic wave to carry out the operations of non-thread and non-needle and can bond lamination of all kinds of all kinds of chemical fibers.

This machine is simple in operation convenient in maintenance,high efficiency in production.The lamination cloth with different patterns can be got what you need to do only is to change the paltern roller.Compared with traditional quilting machines that have similar functions,its features are high in production efficiency and no needle eye.It is ideal equipment used for producing bed-sheet,light quit shell fabric of garments,soft package decoration.

2. Principle and main technical parameters

(1) Basic principle

380V 50HZ power supply → ultrasonic generator → 20HZ high frequency power supply → changer 20KHz mechanical wave.20KHz mechanical wave contacts and impacts the lamination.then the lamination is bonded.

(2)Main technical parameters

| 型号 Model | 电源 Power Supply | 有效幅宽 Working Width | 输出频率 Frequency | 环境温度 Working Temperature |
|-------------|----------------------|-----------------------|-------------------|-----------------------------|
| TC-1550 | 380V 50-60Hz 3 phase | 1550 mm | 20KHz | -10 ℃-28 ℃ |
| TC-1850 | 380V 50-60Hz 3 phase | 1850 mm | 20KHz | -10 ℃-28 ℃ |
| TC-2300 | 380V 50-60Hz 3 phase | 2300 mm | 20KHz | -10 ℃-28 ℃ |
| TC-2800 | 380V 50-60Hz 3 phase | 2800 mm | 20KHz | -10 ℃-28 ℃ |
| TC-3200 | 380V 50-60Hz 3 phase | 3200 mm | 20KHz | -10 ℃-28 ℃ |

3. Structure

TC Ultrasonic Quilting Machine consists of four parts.They are feeder frame.main machine.take-up frame and electric panel.

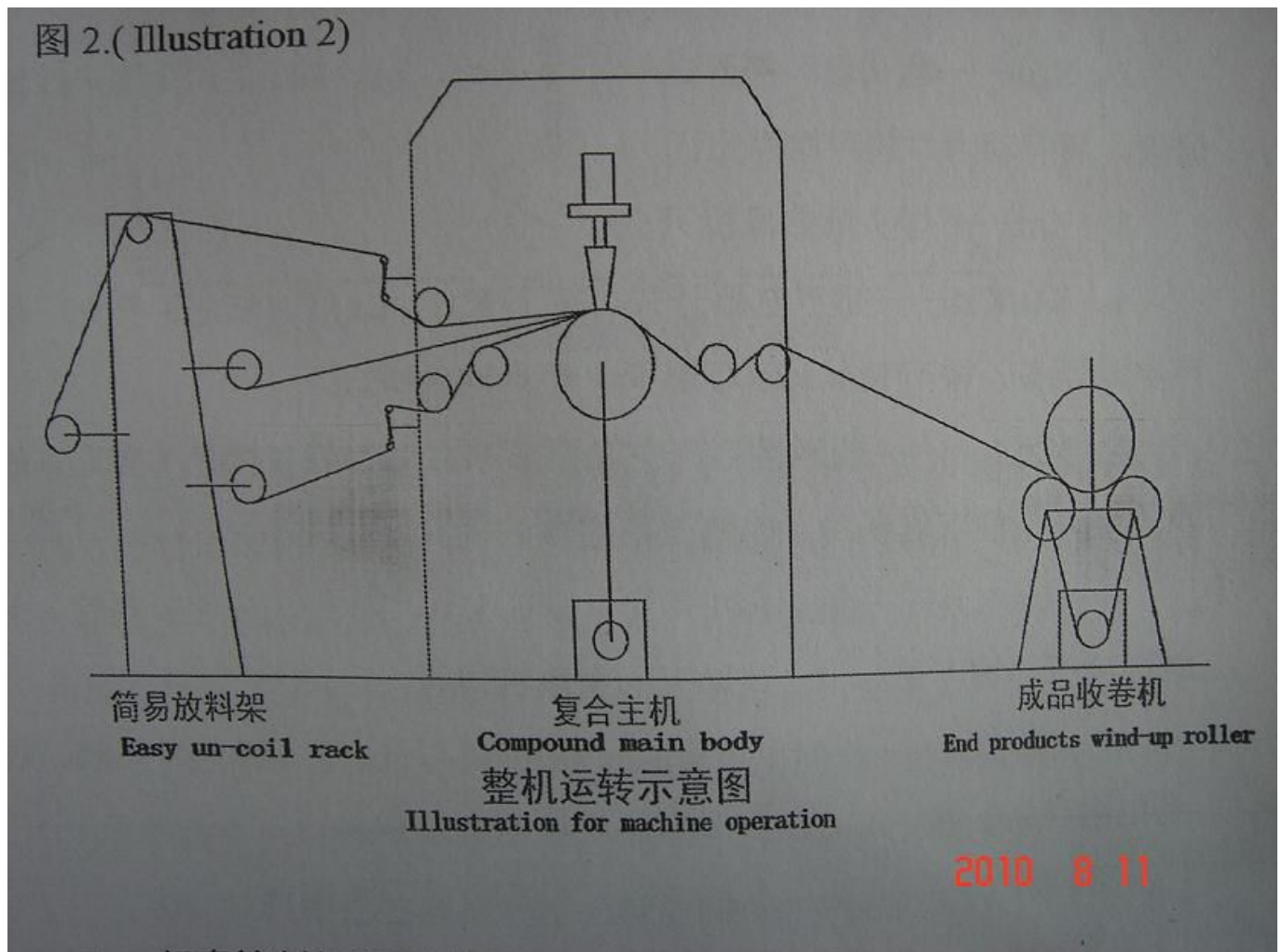
Feeder frame:there are three rollers for take-up clothes.That is to say that it can bond three laminations in most.The feeder is passive way.

Main machine:The beam and pattern rollers of main machine are its main parts.the changer is equipped on the beam.The laminations of clothes will take place in slantaneous bonding between lever of amplitude and pattern roller and the pattern is formed.

Take-up frame:the finished is winded to paper spool and the production process is finished.

Electric panel:it is the core part of the machine.The ultrasonic generator is arranged on it and all buttons are arranged on it too.

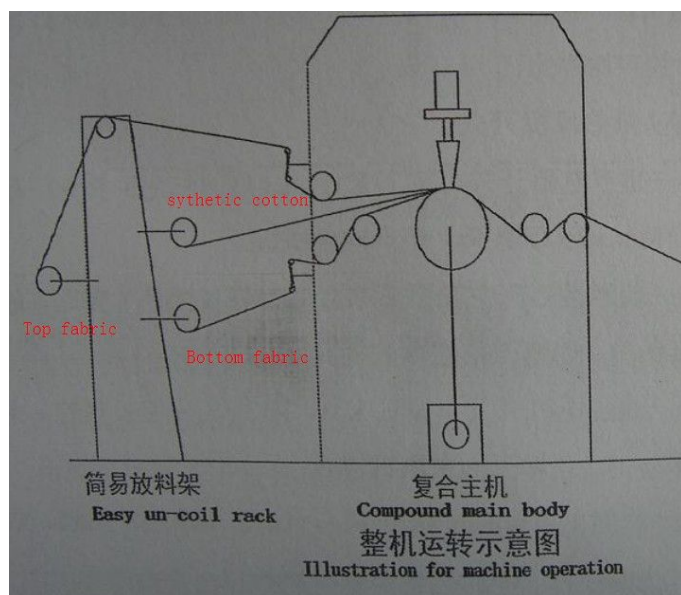
图 2.(Illustration 2)



4. Operation and maintenance

Procedures of operation

- (1) Put cloth and sythetic cotton onto the feeder frame



(2) Rise roller ,the cloth is spread through the spreading roller. Sythetic cotton enter into machine between fabrics



(3) Pass through the rubber roller for cloth take-off;



- (4) Keep some distance between roller and horn after fabric go through



- (5) Start power



- (6) Start generator group 1/2...(ultrasonic comes)



(7) Adjust the pressure of roller(keep roller,fabric material and horn to be touched each other)



(8) Start main motor,roller start to rotate with fabric,adjust slightly according to quilting effect



(9) Start the cooling system



(10) Operate in normal, start the winding unit



(11) Adjust the speed of main machine and winding unit accordingly



Maintenance:

- (1) Oil the bearings of pattern roller and rubber roller.
- (2) The machine should be shut down in time if there is abnormal in operation. When shut down the machine, the generator should be shut down first and then motor.
- (3) When the machine is operated about 8 hours, shut down it about 1 hour for rest.

5. Notes

- (1) It is not permitted to start machine with pressure, that is to say, have to warm up the machine for several minutes by turn on generators and press test button
- (2) It is not permitted strictly to disassemble the generator unit;
- (3) Each ultrasonic generator and changer were adjusted well in our plant. It is not permitted to change them. If



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change, the relevant parts could be damaged immediately. Much attention should be paid to this.

- (4) Electric cabinet should be grounded in order to guarantee safety;
- (5) It is not allowed to load the material manually when machine is on running condition

6. Ordinary faults and debug

- (1) no sonic wave

Causes of fault

- ① low voltage
- ② The power tube is damaged
- ③ The contact is not good
- ④ The parts inside generator are damaged

Debug

- ① equipped with voltage stabilizer
- ② exchange the damaged one
- ③ check the contact point
- ④ send it to our plant for repairing

- (2) heavy noise

Causes of fault

- ① The adjacent amplitude lever is too near.
- ② The screw for clip of amplitude lever is loosening.
- (3) Amplitude lever is too heat

Debug

- ① Separate them suitably.
- ② Fasten it.

Causes of fault

- ① The time of operation is too long

Debug

- ① shut down it for rest about 1 hour

7. Promises to maintenance

Our plant promises maintenance if there are damaged parts with 6 months calculated from the date of delivery. But except the following conditions:

- (1) Disassemble the generator or changer by buyer;
- (2) The revolution is too fast caused by changing the driving parts;
- (3) The above procedures of operation are not followed and the machine is continuously operated over 8 hours. Therefore the bonding melting is taken place caused by overheating of electric appliance.