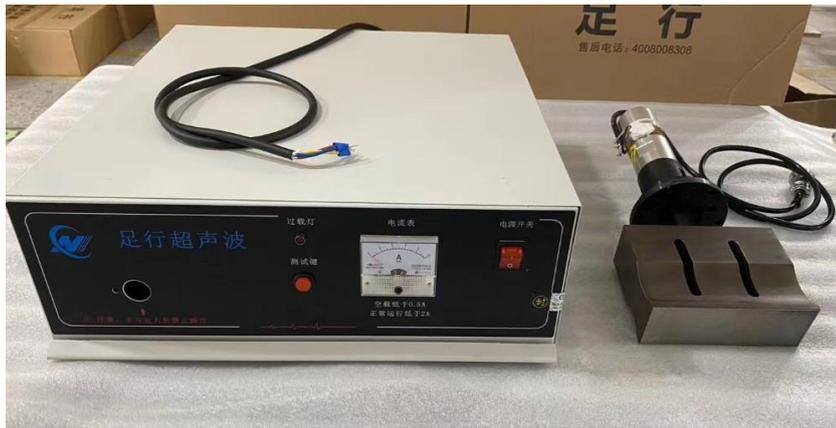


Ultrasonic



Model	Ultrasonic frequency	Ultrasonic power	Voltage
ZX-15K-M	15KHz	2600W	220V,50/60Hz
ZX-15K-B	15KHz	3200W	220V,50/60Hz
ZX-20K-M	20KHz	2000W	220V,50/60Hz
ZX-28K-M	28KHz	800W	220V,50/60Hz
ZX-35K-M	35KHz	500W	220V,50/60Hz

Matching features of ultrasonic welding machine for mask production line:

1. The ultrasonic vibration system can provide high-frequency vibration energy for welding plastic or chemical fiber fabrics. This system needs to be equipped with motion control (position, pressure) and other mechanical devices to complete the welding task.
2. When the system is working, an external trigger signal triggers the system, and the system will automatically complete a welding process according to the preset time. Ultrasonic welding machine Ultrasonic matching machine used for matching technical parameters of mask production line (frequency, power optional 20KHz 2600W, 20KHz 2300W, 20KHz 2000W)

Ultrasonic Generator (power supply crate)



Leveling inductance: adjust the ultrasonic frequency, can not be used to increase power. (Note: Non-professionals are prohibited to operate) Overload lamp: The overload lamp will be on when the pressure is too high during operation. Test key: used in conjunction with the ammeter to test whether the ultrasonic wave is operating normally. Ammeter: start-up surge current 20A, normal operating parameters 0.5A-2A. Power switch: control the switch on and off of the whole ultrasonic wave.

Ultrasonic Transducer



The ceramic sheet is forbidden to be oily. During operation, the ceramic sheet is high-voltage power. Please do not touch it with your hands.

Ultrasonic welding head

1 Flat machine ultrasonic welding head for Flat mask machine

- A. 20K / 2.3KW power supply + transducer + flange + 200 * 20 mould for flat laminating machine nose bridge embossing
- B. 20K / 2.3KW power supply + transducer + flange + 110 * 34 mould suitable for horizontal lamination of flat laminating machine
- C. 20K / 2KW power supply + transducer + flange + 110 * 20/15 mould suitable for flat ear strap machine

2 Ultrasonic welding head for Flat mask machine



200 * 20 20K / 2.3KW, suitable for embossing of nose bridge of plane laminating machine



110 * 34 20K / 2.3KW, suitable for horizontal sealing and cutting of flat laminating machine



110 * 20/15 20K / 2KW, suitable for flat ear loop machine

KN95 ultrasonic welding head

A. 20K / full 2.6KW power supply + 6 ceramic chip transducer + flange + 270 * 25 mold suitable for KN95 transverse lamination machine

B. 20K / full 2.6KW power supply + 6 ceramic sheets of transducer + flange + 150 * 40 mold for KN95 sealing / 160 * 55 mold equivalent is also available

C. 20K / foot 2.6KW power supply + 6 ceramic chip transducer + flange + $\Phi 77$ MM round welding head suitable for KN95 automatic ear strap machine

D. 20K / foot 2.6KW power supply + 6 ceramic chip transducer + flange + $\Phi 77$ MM round welding head suitable for KN95 automatic ear loop machine

E. 20K / 2KW power supply + transducer + flange + 110 * 20/15 mould suitable for KN95 semi-automatic ear loop machine

Ultrasonic Welding Head for N95 Mask Machine



Size :270 * 25

20K / 2.6KW, suitable for KN95 transverse laminating machine



Size:150 * 40

20K / 2.6KW for KN95 sealing



Size: $\Phi 77\text{MM}$ 20K / 2.6KW, suitable for KN95 automatic earloop

machine



Size: 200 * 20 20K / 2.3KW, suitable for embossing of

KN95 vertical laminating machine



Size: 110 * 20/15 20K / 2KW, suitable for KN95

semi-automatic ear strap machine

In order to ensure the normal application and proper maintenance and repair of the ultrasonic mask welding machine equipment, it includes safety, product confirmation, product information, maintenance and repair and other parts. Please use it after reading carefully and fully understanding and mastering.

Matters needing attention (important)

- Clean the welding surface of the mold with alcohol before use; remove debris from the transducer and screws with a clean cloth.
- The welding place of the power line of the transducer is a ceramic reed (fragile). It is high-voltage electricity during operation. It is forbidden to touch and be contaminated with oil. The mold and the transducer must be locked.
- Test before use, press the test wave and quickly release, the power display is not higher than 100W, there is high frequency sound, the touch of the welding surface is smooth, and the working frequency is 20KHZ.
- Remove the protective film of the transducer rod before use, and keep the ceramic sheet with good heat dissipation and ventilation. Do not touch or knock. In actual work, the control line is short-circuited and the ultrasonic vibration starts to work.
 - The mold, the horn and the transducer must be locked. You can apply a little grease and lock it properly with a force plate hand.
 - Between the horn and the flange are locked by Teflon pads and aligned with the center so they cannot touch each other.
 - After the locking is completed, switch on and push the sound wave. The wave needs to be normal without jitter and abnormal noise.
 - The position of the spring pressure adjustment should ensure that the flower wheel will not

scratch the mold under any circumstances, and a limit device can be added.

- when installed on the machine, assure be stable and not shaking and adjust the level and height. Although the screw is easy to adjust and low cost, it is not necessarily stable.
- When the production requirements are met, the pressure should be as low as possible.
- Our company is not responsible for product modification without authorization.

I .Technical parameters:

Main power supply: 220V \pm 10%, 50 / 60HZ, 8A ϕ 6, start-up surge current 20A

Frequency tracking range: resonant frequency \pm 200Hz (resonant frequency is fixed by the factory commissioning personnel before leaving the factory and cannot be adjusted, generally it is the frequency of the ultrasonic mechanical vibrator matched with the power supply)

II . the working environment:

Indoor use, humidity: \leq 85% RH; Ambient temperature: 0 $^{\circ}$ C -40 $^{\circ}$ C Mechanical size:

485x450x157 (including external parts of the chassis)

There must be sufficient space around the machine, not less than about 150m, for heat dissipation and plugging. The part in bold is extremely important, please be sure to follow the implementation, otherwise it is easy to damage the machine or cause an accident. If you hear any abnormal noise or indicate that the meter is abnormally elevated, please immediately turn off the power and then find the cause of the failure.

III. remove the packaging

Receive the goods and open the package. Check the control panel and machine surface . check for loose parts during shipping. If there is any damage, notify the transportation company immediately. For the convenience of investigation, please keep the packing

materials in their original condition.

IV. Power

Warning: Before connecting the power supply, make sure that the switch is OFF (0). To prevent electric shock, use a grounded power source for the vibration source.

V. the line connection before using the power supply

Before using this power supply, you need to connect the aviation plug and the ground wire behind the electric box. When connecting the transducer, pay attention to the two electrode plates (transducers of four electrode plates) that are connected to the housing of the transducer as the negative electrode (ground), The other two are positive poles (connect the red wire of the cable). If the connection is reversed, an electric shock may occur, so you must not make a mistake. The transducers and power supplies manufactured by our company are professionally matched and debugged normally, so the transducers cannot be replaced casually. The drive power supply has frequency tracking function, high reliability and low power consumption, but its premise is that the ultrasonic processor must be adjusted to the resonance state. Therefore, it must be tuned before starting up for the first time. (The tuning has been completed before leaving the factory, do not operate it by non-professionals)

VI tuning (completed by the factory, the end customer is prohibited to operate)

When the machine is working, it must be checked whether the fan is running. Please make sure that the external start switch off and the sonic running switch off before turning on (the two switches are connected in parallel). Before the machine works for the first time or after installing a new transducer, horn, or tool head, it is necessary to tune, that is, let the whole ultrasonic system work at Min. There is a FM screw on the left side of the chassis, which is

composed of two parts. The elongated screw is a tuning screw, which plays a tuning role. The butterfly nut is a fixed nut. After tuning, the butterfly nut should be tightened to avoid loosening of the tuning screw.

VII. Initial installation and commissioning

Checking steps:

Listen, see, touch, lock.

1. Listen to the sound, when the equipment is not feeding or pressing, switch on the ultrasonic power , press the test button, listen to the sound, and see the display! Under normal circumstances, you can hear high-frequency, uniform sound.

2. Look at the meter. At this time, the current of the meter is small (the digital type is generally displayed below 50W, the analog type is generally displayed below 0.5A, and the current does not exceed 1A during normal operation)

If there is a frequency display, the frequency is displayed around 20K without fluctuation.

3. Touch the welding head, touch the welding surface of the welding head by hand, you can feel the even sliding.

4. Lock parts, if you hear the rattling noise at no load, first check whether the grounding wire of the shell is reliably grounded, the welding head and the transducer, the transducer and the flange, the flange and the fixing plate, the fixing plate and the four installation rod ,in which the screws be locked?

Whole machine debugging:

First adjust the height and level of the fixed welding head, and keep a 0.15mm gap between the pinch roller and the welding head , and then adjust the level of pressing according to the welding situation. If you see sparks at the welding place, or the material is scorched, it is because the level between the press and the welding head is too strong or the output line

connected to the transducer rod in reverse. If the welding is not reliable, the digital type can increase the amplitude (see the instruction manual or consult the ultrasonic staff), the analog type generally does not need to adjust the power, but adjust the pressure tightness.

Abnormal situation 1: After using for a period of time, the ultrasonic sound increases, which is abnormal, in many cases, it is because the screws and other parts gradually loosen during the working vibration.

Abnormal situation 2: After a period of use, the welding is not reliable, the ultrasonic equipment shuts down and alarms, and it can be used after shutting down and cooling. Check whether the welding head is overheated, increase the ventilation of the mold and the rear of the transducer.

VIII. Cooling

The temperature of the transducer must not exceed 80 °C, otherwise it must be equipped with a powerful fan for cooling. At the same time, close attention should be paid to the heat transmitted through the tool head and the horn.

IX. Main components

Ultrasonic vibration source (driving power supply): convert 50-60Hz mains power into high-power high-frequency (15kHz-100kHz) power supply to the transducer

Transducer (controller, transducer): convert high-frequency electrical energy into mechanical vibration energy.

Amplifier: Connect and fix the transducer and tool head, amplify the amplitude of the transducer and send it to the tool head. Tool welding head (introduction rod): It transfers mechanical energy and pressure to the work, and also has the function of amplitude amplification.

Connecting bolts: tightly connect the above components.