INSA programmable desktop reflow oven

The M962 type manual

INSA   Electrical Technology Co., Ltd

http://www.microsmt.net

一、 Outline：

The Oven's temperature's control circuit is by PID regulation algorithm, the PID self-tuning and segment output power limit function, with no overshoot and no underspeeds excellent control characteristics. In a single temperature zone, up to 50 groups of 45 segments programmable infrared radiation heating and circulating air heating, to achieve the effect of large multi-temperature reflow soldering, especially suitable for the welding of the laboratory small quantities chip components. This machine has a 160 * 160 dot matrix large-size liquid crystal display, visual display of the curve is running. The machine also comes configured with the curve recording software, you can easily through the host computer link the R232 serial download any mass temperature curve. And real-time graphical display of the trend of the curve.

二、 Technical parameters：

The effective welding area：260x 200 cm
Product Dimensions： 34x 28 x18.5 cm
Packing size： 51x 36 x25 cm
Rated Power： 800W
Process cycle： 1～8 min
Supply Voltage： AC220V/50HZ
NW： 9Kg
GW：10Kg

三、 Environment requirements：

1）Because of high temperature at the bottom of the machine, the desktop can not be flammable materials.

2）Because of high temperature the exhaust do not near flammable materials.

3）Keep ventilation of indoor space, pay attention to the the welding exhaust gas emissions, to prevent harm to the people.

4）around the machine 20CM there is no flammable or explosive substances.
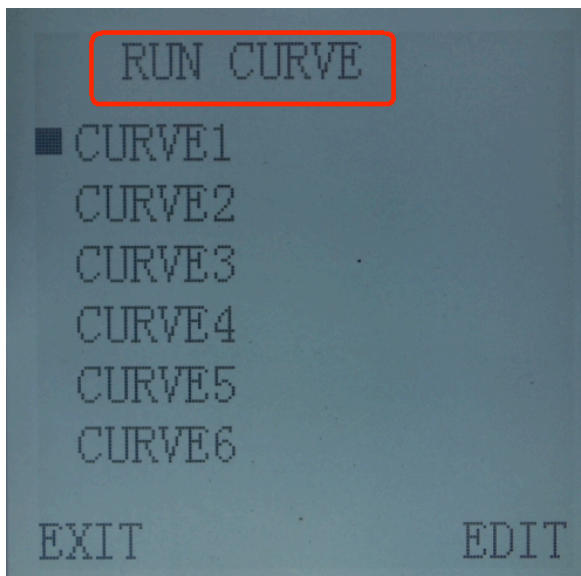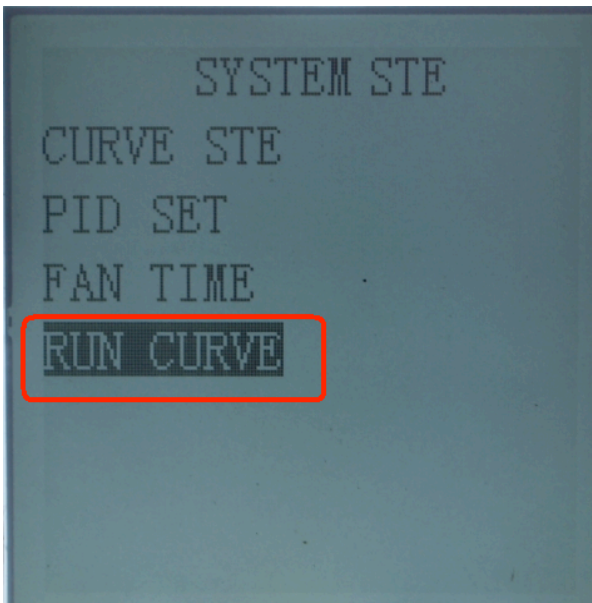
5）AC power must have qualified ground.

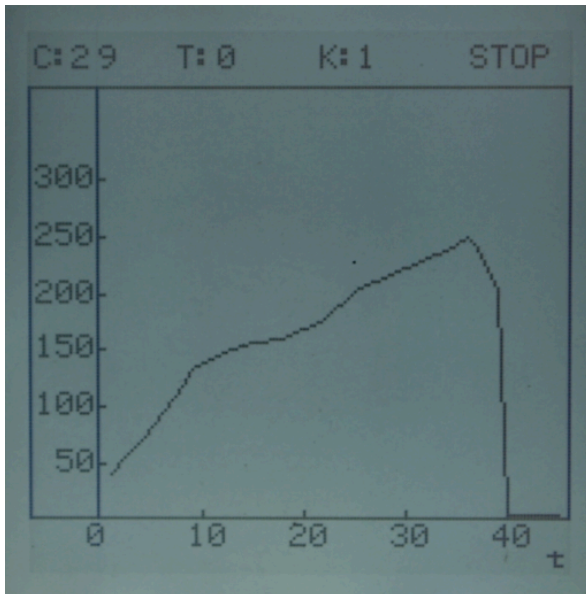# 四、 Operating Instructions:

1、 How to start a welding：

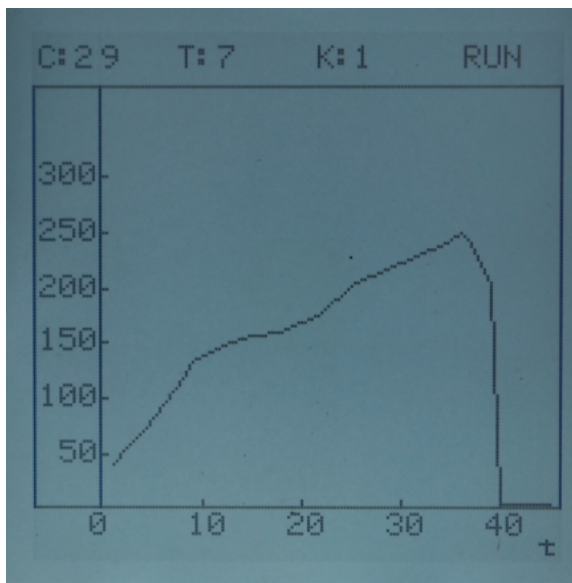1) Press ENTER to select the English interface , enter the System Setup menu.
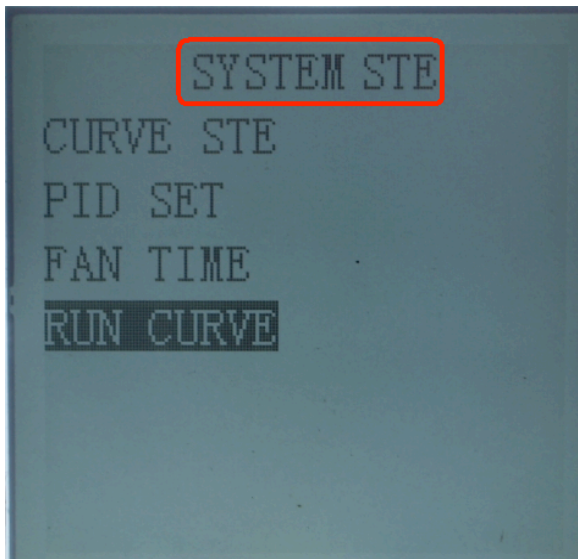
1） Press the arrow keys to select the RUN CURVE, press ENTER the RUN CURVE Interface.

2） Press the arrow keys to select the CURVE that you want to run, press ENTER to enter t he curve running interface

3） Press the ENTER key, the curve began to run in accordance with the set value.

4） curve throughout the end of the run, it will automatically stop heating and start the fan cooling.

Curve 1, curve 2 is the default lead solder curve.curve 3, curve 4 is the default lead-free soldering curve, curve 5 is fixed red plastic curve, the curve 6 is PCB rework Curve., The rest of the curve is user-define curve, you can adjust the thermostat temperature on this basis, peak temperature, heating time.

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2、 How to modify the temperature data of curve :

1) Press the arrow keys to select the curve settings, press ENTER
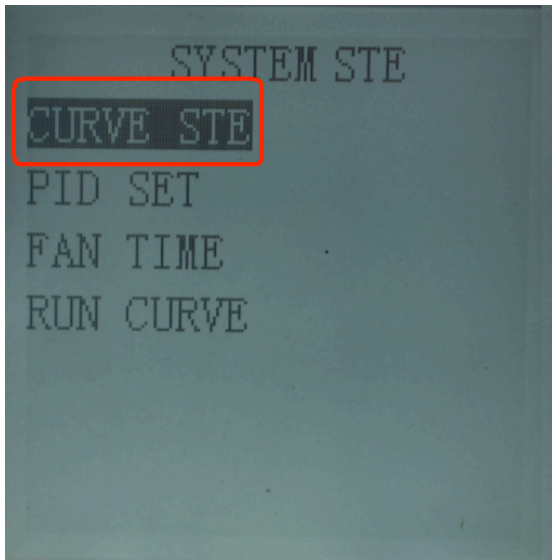
2) to enter the the curve selection screen, press the arrow keys to select the curve which
you want to modify.
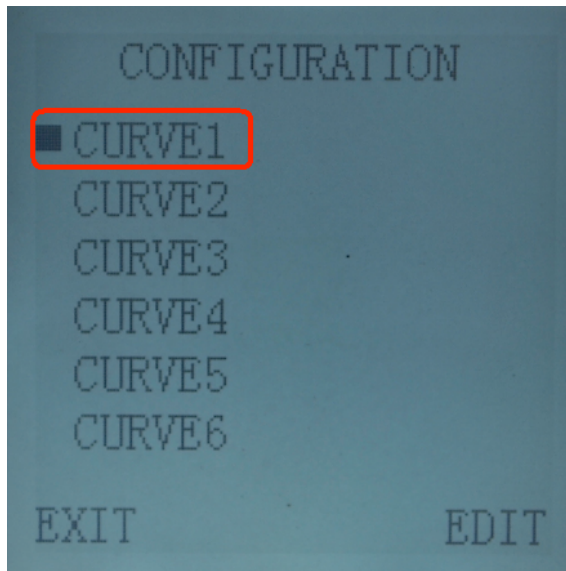
3）Press the ENTER key to enter the curve setting interface
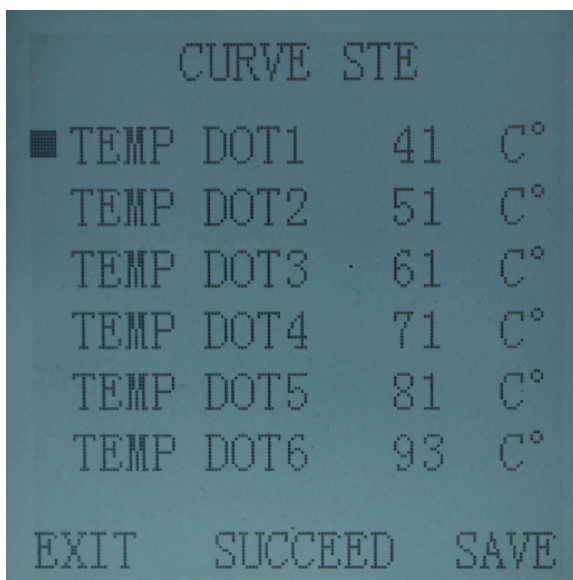
The basic definition of the curve, each curve can be set to 45 temperature point, the heater's temperature will be in accordance with the 45 target temperature. Each temperature point's interval is 10 seconds, so the curve's longest heating time is 450 seconds, the first 0 value point is the end of this curve.

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4） Press the arrow keys to select the temperature point which need to modify, press the left key to increase or decrease the temperature. when all temperature points are changing. press ENTER to confirm, press EXIT to return to the previous menu.

5） Press the ENTER key to enter the the PID setting interface, press the arrow keys to select the P, I, D, which need to modify .press the left button to increase or decrease the P, I, D. Press ENTER to confirm, press EXIT to return to the previous menu. In most cases P = 40, I = 15, D = 2.

6） Press the ENTER key to enter the the fan time setting interface, press the left button to set the time of the cooling fan, press ENTER to confirm, press EXIT to return to the previous menu. Most cases the fan run time is set to 5-8 minutes.

C: the actual temperature of the furnace chamber T: running time curve K: current curve
The graph of the X-axis is time, 10,20,30,40, respectively   representative of the 100 second point, 200 Seconds point, 300 Seconds point, 400 Seconds point. Every three pixel interval is 10 seconds. The Y axis of the graph is the temperature, and the solid line is the set temperature, the the RBI line is the actual temperature trend.

3、 set by the computer curve ：

1) the R232 serial cable is in the BOX, connect the M962 and your host computer with the cable.
2) Setup the software.

3) Select your serial number of the computer
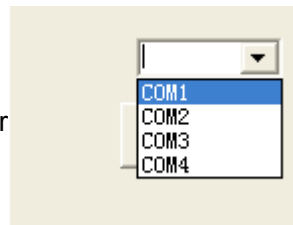
Press to open the port button. If the port does not exist, suggesting that the serial port does not exist.

4) If you do not need to load a new curve data, just run the curve which has been saved in the machine. select the the curve numbers which you need to run in K :box, and then click the Run button.
5) If you need to load a new curve, first select you need to be load in K: box .and then click the LOAD button..select your curve file in the pop-up box, then press the save.then the curve which you need will be loaded into the reflow.

Curve data file format is fixed, K1 to K50, which must be in sequential order, and each curve must have 45 values.you can only change the value but can not change the format. Curve 1, curve 2 is the default lead solder curve.curve 3, curve 4 is the default lead-free soldering curve, curve 5 is fixed red plastic curve, the curve 6 is PCB rework Curve., The rest of the curve is user-define curve, you can adjust the thermostat temperature on this basis, peak temperature, heating time.
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4、 the welding step

1） Place the PCB at the platform in the drawer, then close the closed the drawer gently.

2） Press ENTER to start the curve. or click on the Run button to start the curve in software.

3） After the cooling fan is stopped, pull out the drawer, the welding is completed.

五、 The Reflow curve basic knowledge：

1) preheating zone: PCB materials (components) preheating, welding material reaches thermal equilibrium, Paste began, flux and other ingredients are temperature rise and the right amount of volatile

2) temperature zone: to remove the surface oxide, some airflow begins to evaporate (welding) temperature reaches the melting point of the solder paste (paste in a solution of undissolved).

3) reflow area: from the solder melting point to a peak and then fell to the melting point, the the solder melt melting process, PAD and solder welding.

4) cooling zone: down to about 50 degrees from the solder melting point alloy solder joint formation process.

5) the furnace temperature is gentle, smooth, the airflow completely evaporated (rapid warming and cooling will produce bubbles or rough spot, false welding, solder joints for cracks and other phenomena)

6) Lead solder paste melting point is 183 degrees, the composition of Sn, Pb.

7) lead-free solder paste melting point is 217 degrees, the composition of Sn, Ag or Sn, Ag, Cu.

Special Note: the setting temperature parameters and the real-time display of temperature is refer to the furnace chamber temperature.

六、 Aftermarket Contact：

TEL： 86-0760-8696069   MOBILE: 13702507715

Address: Xiaolan Town, Zhongshan City,China, Jiuzhouji Yongxin Road 66

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七、 Warranty Description：

1） (except quartz heating tube) 1 year warranty.