Heat treatment measure, temperature control table, using the method in productio

Heat treatment, in order to accurately measure and control the temperature of the workpiece and the cooling medium, the need to measure, temperature control table for moderate temperature measuring.

1. The glass liquid thermometer

Of glass liquid thermometer is according to the liquid medium (such as mercury, alcohol, toluene, etc.) in the expansion of the glass tube heated principle of temperature measurement, the measuring temperature range: 100 ? ~ 800 ?.Characteristics of glass liquid thermometer is on the instructions, accurate, convenient and charged contact also can match by mail or control relay implementation.



2. The thermocouple and millivoltmeter

Thermocouple is made up of two components of different wire or wire, welding together at one end inserted into the furnace (hot), on the other side (cold end), connected with wires and millivoltmeter.When the hot end is heated and the generation between the cold end temperature difference, the cold end generate an electrical potential difference between the two lines, make with temperature scale millivoltmeter deflection temperature indicating pointer.The temperature difference, the greater the potential difference is, the greater the indicating temperature also increases accordingly.

Millivoltmeter measuring mechanism is a department of magnetoelectric meter, by zhang wire support moving coil in fixed permanent magnetic field.The millivolt signal made thermocouple after moving coil with current, rotation by magnetic field effect.On the torque and the moving coil wire when the rotation moment balance, the position of the

moving coil correspond to the size of the millivolt signal, the pointer points out the corresponding temperature on the dial.Millivoltmeter scale on the surface are marked with thermocouple index number, a millivoltmeter specifications can only be used with correspondingly index number of thermocouples.



Thermocouple pyrometer can be combined in and automatic temperature control device to control furnace temperature automatically.When used according to the first process set workpiece heating temperature, when the temperature is lower than the set temperature is automatically connected to the power supply for heating;When the temperature is higher than the set temperature is automatically cut off the power to stop heating;After the temperature drops below the set temperature and heating power supply is connected, the evenness of temperature in the furnace.Thermocouple pyrometer to measure within the range of 0 ? ~ 2000 ? temperature of gas or liquid.

3. Optical pyrometer

Optical pyrometer is objects using monochromatic wave radiation intensity (i.e., single color brightness) changes with the temperature of the principle of temperature measurement.Change the brightness of the optical pyrometer filament evenly, make it the same as the single color brightness object to be tested, namely on the optical pyrometer dial indicates that the brightness temperature of the object to be tested.Optical pyrometer is carried out in accordance with the absolute black body temperature degree, therefore, when measuring the temperature of the general object, must read on the dial with the object of monochromatic radiation coefficient (epsilon lambda) amended, can obtain the real temperature of the object to be tested.



Optical pyrometer has simple structure, convenient use and the advantages of non-contact measurement temperature.But due to the measurement result is strongly influenced by the environment, and can realize the automatic measurement and control of temperature, high temperature can only be measured at the same time and cannot be measured at low temperature, corrosion or more easily in the heat treatment is used only for thermocouple is difficult to measure the high temperature occasion, such as induction heating surface temperature measurement, high temperature salt bath furnace, furnace temperature measurements.