

Technical characteristics

Vacuum Chamber

Vacuum chamber adopts double shielding cavity and external cavity structure, to provide the sample test of extreme pressure of 10^{-4} pa vacuum environment (when using molecular pump) to test the low temperature, avoid the water vapor in the air condenses into dew on samples, to avoid excessive leakage or probe cannot contact electrode and make the test to fail at the same time, due to the vacuum thermal insulation effect but effectively provide refrigeration efficiency, high temperature test, to avoid the oxygen in the air oxidation samples, to avoid the sample electrical error on the physical and mechanical deformation.

Probe arm XYZ regulating mechanism

The XYZ adjusting mechanism of the probe arm adopts the structure of self-locking lead screw and cross roller guide rail to achieve the precise positioning of the probe at 10 μ m. The probe drift is better than the high-precision point needle of 60nm/30mins. Meanwhile, the three-axis tubular clamp and the three-axis cable with high shielding function are adopted to achieve the leakage test accuracy of 50FA.

Microscope regulating mechanism

By adjusting the telescopic height of the support frame and the adjustable seat of the microscope, the microscope regulating mechanism can observe the 20x eyepiece and 0.8-5 times the zoom ratio of the objective lens in any area of the sample, so as to realize the magnification ratio of the sample of 16X-100x.

Refrigerant flow regulation system

The refrigerant regulating system is composed of the pressure control valve of compressed nitrogen in the duwa tank and the needle valve of precise regulation to control the low temperature. The pressure in the duwa tank can be adjusted by adjusting the pressure control valve of compressed nitrogen pressure, so as to control the pressure flowing out of the refrigerant and then adjust the flow rate of refrigerant. By adjusting the precision needle valve and then precise control of refrigeration flow, the function of accurate low temperature control is finally realized.

Refrigerant Coaxial Loop

Refrigerant coaxial circuit of the refrigerant from the middle line into the sample set, through the shielding cavity bottom chamber, in return to the outer coaxial loop back tube,