Working principles in general:

The eddy current detection is to put the conductor close to the coil with alternating current, and the alternating magnetic field is established by the coil. The alternating magnetic field passes through the conductor and generates electromagnetic induction with it to establish an eddy current in the conductor.

The eddy current in the conductor will also produce its own magnetic field, and the action of the eddy current magnetic field will also change the strength of the original magnetic field, which will lead to the change of the voltage and impedance of the coil. When the structure and hardness of the conductor change, it will affect the strength and distribution of the eddy current. The change of the eddy current in turn causes the change of the voltage and impedance of the detection coil. According to this change, it will know whether the defects in the conductor and the properties of the metal material have changed.

What standards does the machine refer to：

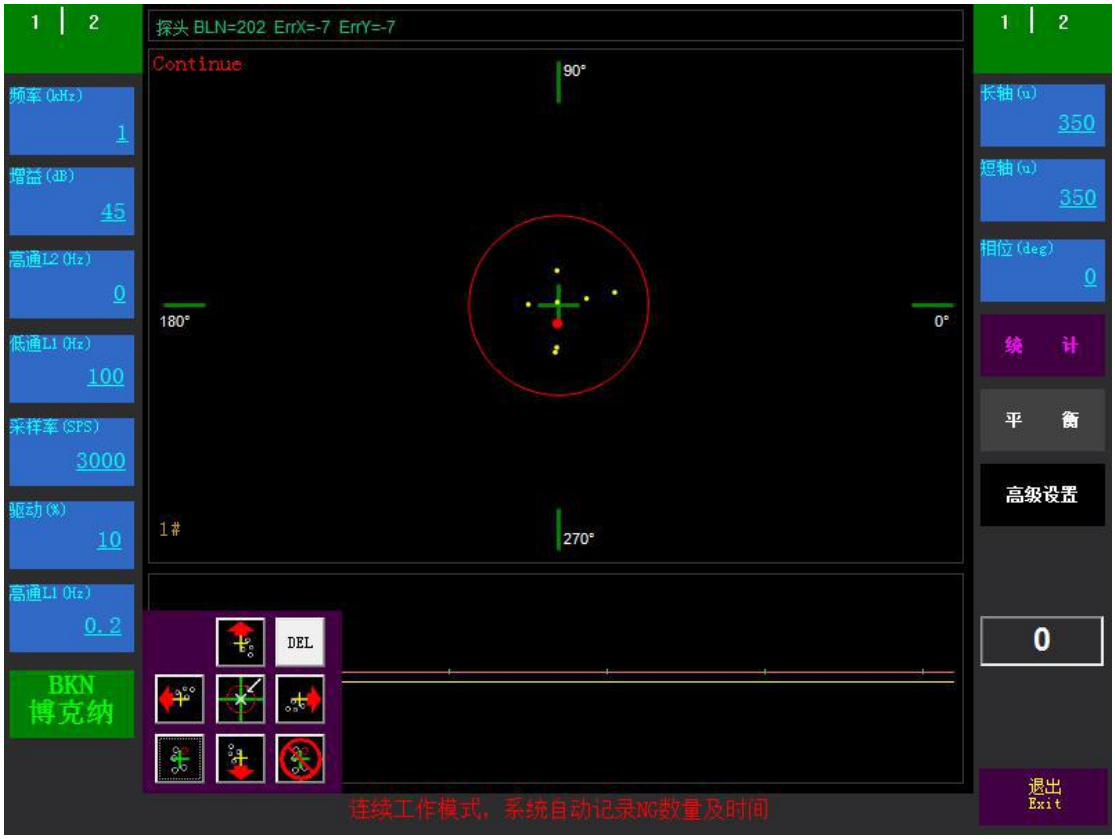
EN ISO 15549	Non-destructive testing,general theory of eddy current testing.
EN ISO 15548-1	Nondestructive testing,eddy current testing equipment part 1,instrument characteristics and verification.
EN ISO 15548-2	Nondestructive testing,eddy current testing equipment part 2,probe characteristics and verification.
EN ISO 15548-3	Nondestructive testing,eddy current testing equipment part 3,system characteristics and verification.

How to verify the machine :

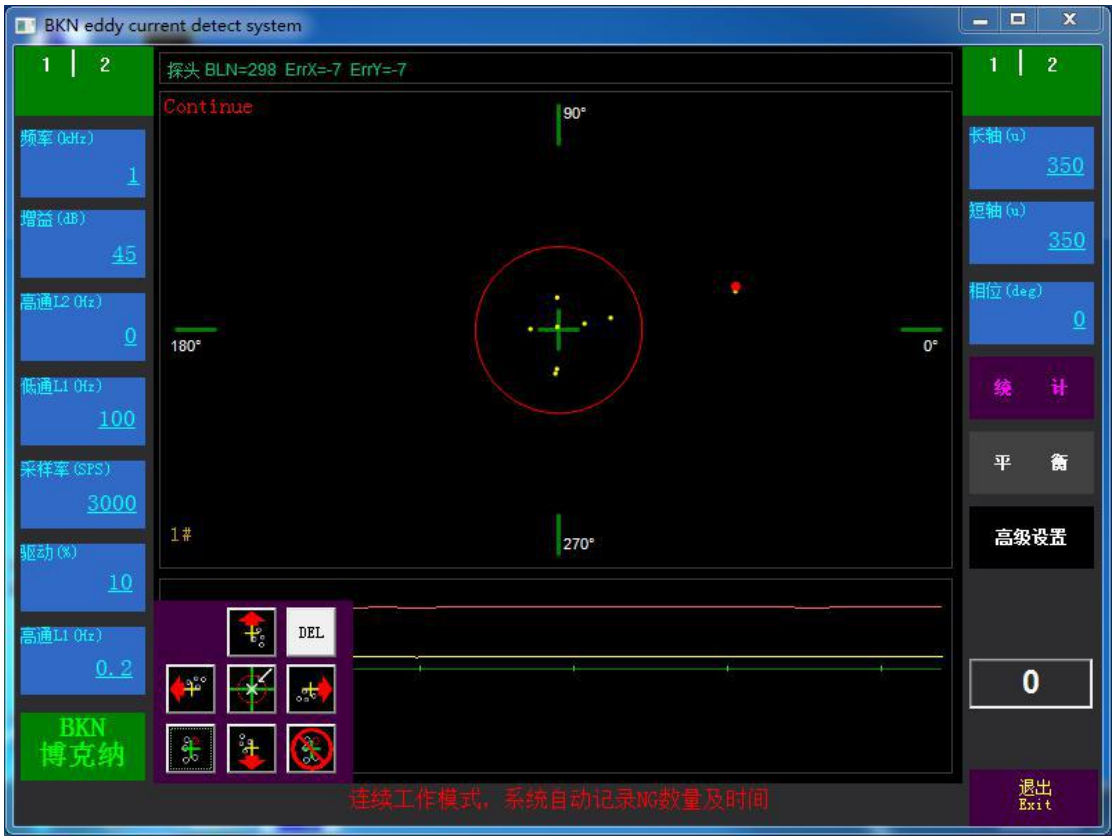
(1) Put two of the qualified workpieces into two contrast probes (A and B), keep the position consistent, press the center point of balance function, observe whether the red dot figure is near the center. 

（1）A probe and the workpiece in the probe as a contrast reference, place one side. Put the workpiece in B probe on one side for inspection and use.

（2）  Take out the sample in the B probe, put into other qualified workpiece, observe the red dot figure in the interface, can save the figure in the interface according to the calibration, at this time observe the graphic distribution of qualified workpiece to adjust the range of alarm area as follows:



（3）At this time put unqualified workpiece, observe the distribution of red dot figure, adjust the alarm area range again (the figure of qualified workpiece is within the alarm range, the figure of unqualified workpiece is outside the alarm range, at the same time ensure that the difference between qualified and unqualified figure is large) as shown below.



（4）After the adjustment is completed, the batch detection can be carried out, the alarm ring is qualified, and the alarm ring outside is an unqualified instrument alarm

Note: A probe and the workpiece in the probe can not touch or change the position when comparing the reference detection, workpiece put in the B probe and wait for 1-2 seconds, after the red dot figure is stable to confirm the qualified or not qualified to remove the workpiece,

In manual mode, every 30 minutes to 60 minutes, put the first workpiece that was originally calibrated into it and recalibrate validation.