After large transformer insulation be affected with damp, need at the field of the substation for dry processing quickly and efficiently, but the main method of hot oil circulation is still inadequate, such as low efficiency, long processing time, especially under the low temperature in winter, hot oil circulation can not reached expected temperature for the restriction of equipment and technology. This paper studies the technology of heating the transformer coil in short-circuit. The transformer can be heated by the loss from inner tanker, which can raise heating efficiency and dry the transformer in the field. Heating technology in this paper, the low frequency under the condition of short circuit studies, using the winding short-circuit loss from internal heating equipment, greatly improve the efficiency of heating, designed and developed special low frequency heating equipment at the same time, can run stably for a long time at the scene of the substation, In this paper, a low frequency device for heating is used in the field. Taking 330kV autotransformer of be affected with moisture, in the treatment of hot oil circulation in winter, short-circuited method is used to conduct low frequency auxiliary heating, which has improved heat efficiency, shortened the treatment duration and reached the expected effect. And the water reduction achieved by the drying processes, was quantified by measuring the water content of insulation samples taken from the transformer before and after the drying processes. It is found that the device can raise the heating efficiency.