# THE WELDING TRANSFORMER WITH SMOOTH REGULATING OF A WELDING CURRENT

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Welding transformers have deficiencies at regulating of a strength of current of welding. Traditionally such regulating is carried out by mechanical devices with which help change magnitude of a positive allowance between magnetic circuits or its windings. Mechanisms unreliable also demand maintenance service. The essence of regulating of a strength of current of welding consists in increase or decrease of a magnetic fringing flux, that is an energy loss. Dispersion magnetic fields, becoming isolated by metal parts of the transformer, generate Foucault currents which heat up the transformer.

The transformer design is resulted on fig. 1.

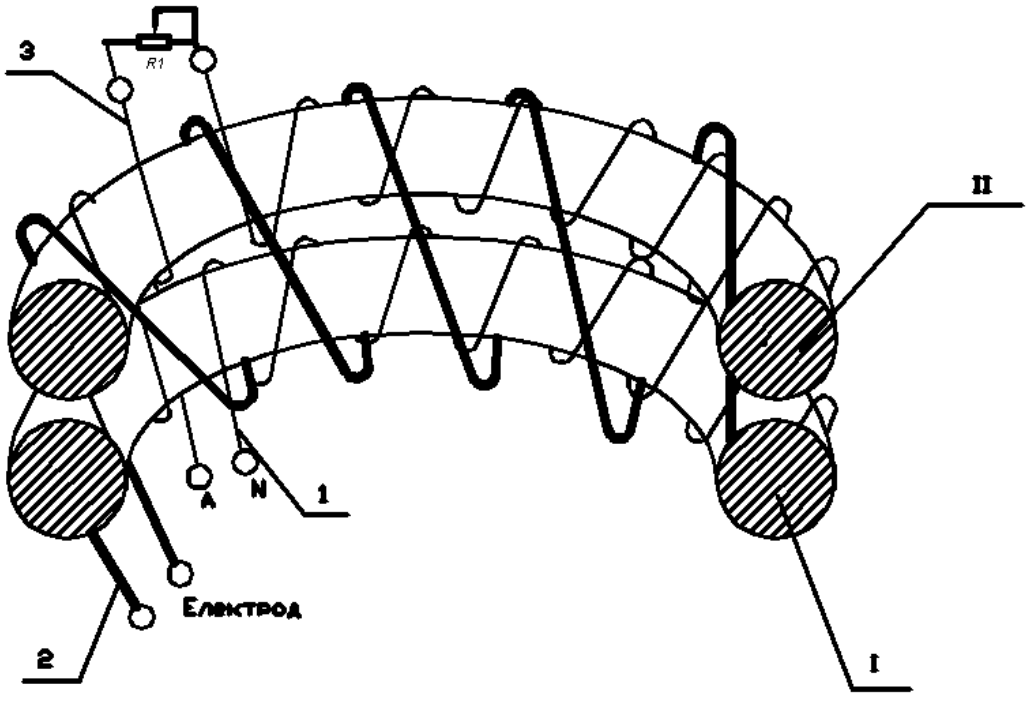


Fig. 1. A design of the welding transformer

The welding transformer consists of the basic ring magnetic circuit I on which the primary winding 1, and the second ring magnetic circuit II on which the winding of regulating of a strength of current of welding 3 is reeled up is reeled up. Magnetic circuits are connected among themselves by the secondary winding 2 which is reeled up from above primary and regulatings and is sheathe for magnetic circuits. The welding electrode is affiliated to secondary winding leading-outs. Leading-outs of a winding of regulating are affiliated to the device of smooth regulating of a current.

On fig. 2 the basic circuit diagramme is resulted.

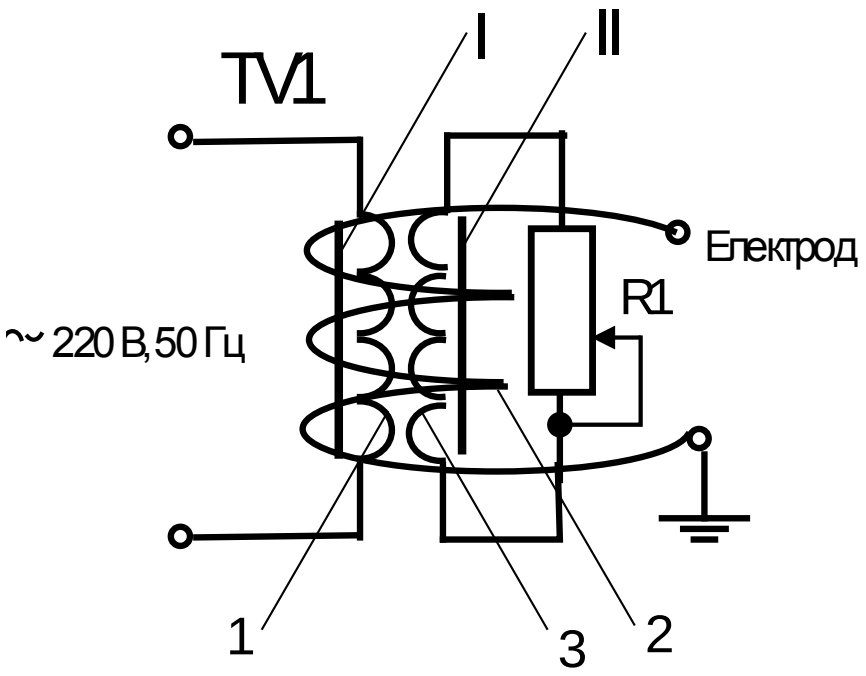


**Fig. 2. The circuit design basic electric the welding transformer**

The minimum current of welding is defined by a magnetic circuit II. The transformer Secondary winding, at the open winding of regulating, is loaded on an induced drag. Magnitude of an anode drop we find from the equation of voltage of the secondary winding.