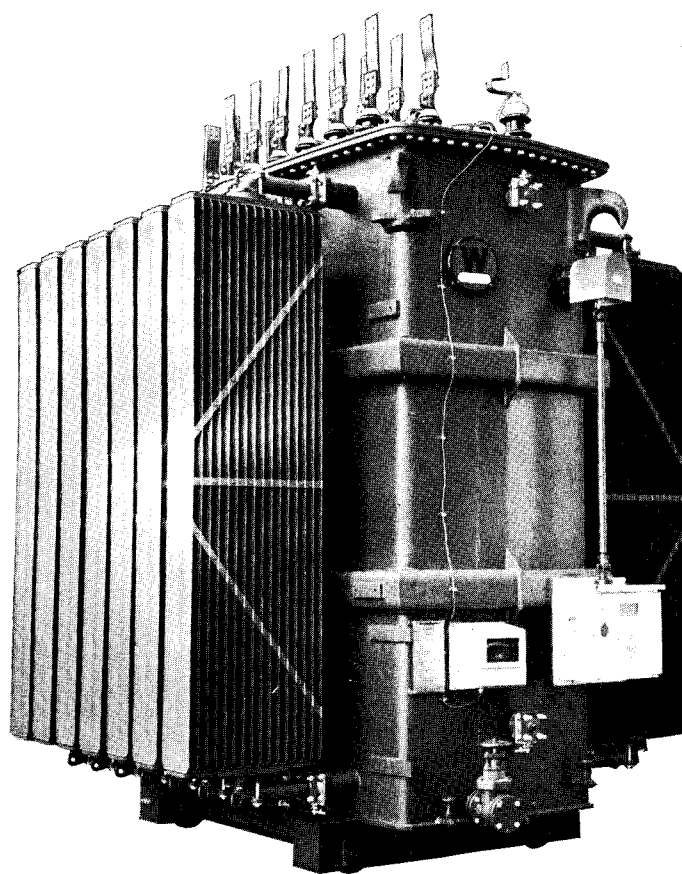


Westinghouse

Rectifier Transformer

INSTRUCTION BOOK



SELF COOLED RECTIFIER TRANSFORMER

Westinghouse Electric & Manufacturing Company
Sharon, Pa.

Power Rectifiers

INSTRUCTIONS

GENERAL

The overall characteristics of a rectifier installation are largely fixed by the transformer. It transforms energy from the voltage and phase of the supply circuit to the voltage and phase required at the anodes of the rectifier for the desired d-c. output. It, thereby, determines the d-c. voltage, regulation and ripple. It is also a factor in the overall efficiency.

CONNECTIONS

A number of secondary connections have been devised for use with rectifiers. The best of these employ interphase transformers to enforce the parallel operation of a number of groups of phases. In this way, the economy advantage of a small number of phases is combined with the ripple and power factor advantages of a greater number

of phases. Two or four separate, three phase groups are thus commonly arranged, through interphase transformers, to have the characteristics of a six or twelve phase connection.

RATING

The current required by the anode of the rectifier is non sinusoidal in shape. This distortion is inherent with the result that primary and secondary kv-a. differ from each other and exceed the kw. rating of the installation. Rectifier transformers are rated in terms of the kv-a. drawn from the supply circuit when the rectifier is delivering its rated kw. output. For normal installations, the kv-a. drawn from the supply circuit is about 10 percent greater than the kw. rating of the rectifier.

CONSTRUCTION

The construction of rectifier transformers is basically the same as that of power transformers of the same size, voltage, and method of cooling. Interphase transformers may be included in the same case as the main transformer or be in a separate case. The mechanical forces acting on the parts of a rectifier transformer during a backfire of the rectifier are much greater than those on a power transformer when short circuited. The arrangement and bracing of coils and leads, therefore, receives special consideration in rectifier transformers.

OPERATION AND MAINTENANCE

The information given elsewhere as pertinent to the type and cooling method employed should be followed.