



RAISE GRID VOLTAGE TO HIGH VOLTAGE

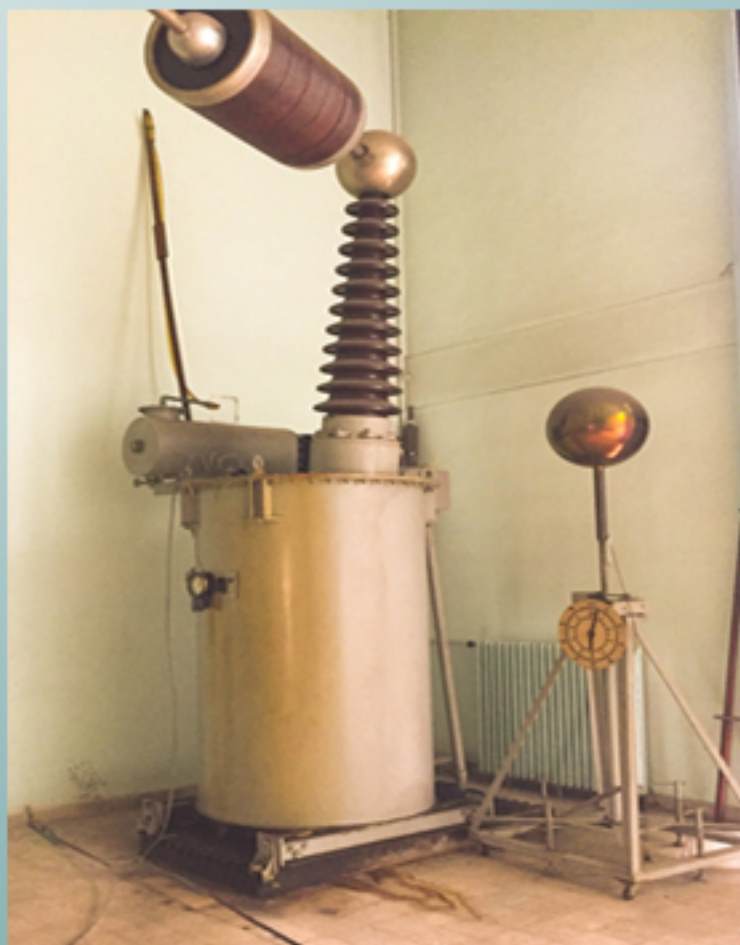
TEST TRANSFORMERS

BEST

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Raise Grid Voltage to High Voltage Test Transformers

Best transformer have a long time expertise regarding the special transformers www.best-transformer.com. In 2017; a new challenge is occurred: a 1949 ASEA made monophas test transformer, which to deliver low grid voltage to high test voltages for AC voltage tests, arrived at factory. This transformer was used in İstanbul Technical University (İTÜ) for long time but in recent years, it somehow started not to convert voltages. Our relation with İTÜ is via Prof. Dr. Aydoğan Özdemir and Asst. Prof. Dr. Suat İlhan, regarding developing transformers. This relation led to repairing this old transformer in Best, for İTÜ and for new researches.



Pic. 1: Test transformer at İTÜ



Pic. 2: After repair, transformer at Best ASB
factory test laboratory

First step is to understand the theory of transformer; 400Vac LV supply is converted to 300kV HV levels. With series-parallel change at LV side, it allows two different operation/test voltage. It could only be loaded 30mins, since there are no coolers around. First tests on transformers showed that there was an error on HV winding, this lead to inspection on active part. There were a lot of HV turns, which made with old technology, risky welding and very short electrical insulation distances. Windings renewed; thus more durable and electrically safer windings are obtained. Additionally; transformer had a very old bushing, winding exit and bushing was not in good condition. Very old transformer oil is also renewed.

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After repair; factory tests were performed and renewed test transformer passed all of them. After delivery to İTÜ; transformer is maybe ready for another 20 years of service to Turkish and İTÜ science & research activities...

Short Term High Voltage Test Transformer Specs:

- 400Vac grid voltage could be risen up to 300kV (could be adjusted)
- Monophase AC test voltages, could be applied up to 30 mins (duration could be increased)
- Low cost, robust solution for tests.