

... 50Hz transformer will work with 60Hz power but not the inverse?

Power grids in the United States generally use alternating current (AC) rather than direct current (DC). This is because electricity can efficiently be transmitted at high voltage using AC and it can be easily stepped down or up for consumer use in an AC power grid on a frequency such as 50 Hz or 60 Hz. This is where the high-quality transformers made by MGM Transformer Company come into the picture.

Since the decision to use AC was made, those frequencies became the "frequencies for alternative current transmission" standard. The frequency used generally depends on each country. One of the most peculiar cases is Japan which uses both, when a person travels from Tokyo to Osaka he moves from a 50 Hz to a 60 Hz zone. How 60 Hz came into picture will be a separate discussion topic for a future issue of "Did You Know?" and is a very interesting historical, political and business rivalry between Nikola Tesla, Edison and Westinghouse and one electrocuted elephant.

Transformers 1 KVA and larger, rated at 60 Hz, should not be used on 50 Hz service due to higher losses and resultant heat rise. However, any 50 Hz transformer will operate on 60 Hz service.

How does it affect the Transformers?

Yes, a 50 Hz transformer can run on 60 Hz with no ill effects. The transformer design does not impose any problems if the supply frequency exceeds the rated frequency, **but a supply frequency lower than the rated frequency has the same effect as an overvoltage.** Therefore, running a transformer at a frequency lower than its design rating can cause damage to the transformer. 60 Hz transformers are smaller and less expensive than 50/60 Hz transformers. The design construction of a 50 Hz transformer is usually larger than that of the 60 Hz. So when you are ordering a transformer make sure you get one of our 50/60 Hz units.

