

Why users should almost never use dual voltage heaters

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Some heaters are designed to operate from more than one voltage. These are referred to as Dual Voltage heaters. One of the voltages is always twice the other voltage, such as 240 volt/480 volts. These heaters have three terminals or wires. The terminals are connected one way for 240 volts and another way for 480 volts. (Inside are two separate heaters. For the smaller voltage, the heaters are connected in parallel. For the larger voltage, the heaters are connected in series.)

These heaters offer an advantage to OEM manufacturers when building equipment. By using these heaters, the OEM can put Dual Voltage heaters on the equipment without knowing which voltage their customer will use. If they did not use Dual Voltage heaters, they would end up building the equipment for one voltage and then if their customer wants the other voltage and they would have to change all the heaters. With these heaters, the OEM just provides documentation on how to connect up the heaters for each voltage. Thus, many heaters shipped on OEM equipment are dual voltage heaters. Dual voltage heaters are more complex and cost more than single voltage heaters, but still make sense for OEM manufacturers.

When the equipment is installed at the customer's facility, it is connected to the appropriate voltage. Eventually one of these heaters fails. Now, what should the replacement heater look like? Should it be a dual voltage heater? Usually, when the equipment is installed, the voltage very rarely changes. Now, in this case, a heater of similar configuration but operating only from a single voltage should be used. Many times, the failed heater is taken to the purchasing agent and the agent is requested to buy a heater just like this heater.

If a user purchases a dual voltage heater rather than a single voltage heater, the dual voltage heater will be more expensive, more non-standard, more complex and because of the complexity, have a shorter life.

So for a lower cost and a more reliable heater, order a single voltage heater rather than a dual voltage heater,