Re: Converting from American Voltage220v 60hz to Romanian 230v50hz

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- *From*: "Fritz Schlunder" <me@xxxxxxxxxxx>
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"ravindavid" <ravindavid@xxxxxxxxx> wrote in message
news:1138645366.142016.111010@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
> I have moved my American (and Taiwanese)machinery to Romania. My main
> concern is a 220v, 60hz, 5 hp machine with an accessory 60 v motor
> being run on 230v, 50hz. Reduced performance, unless substantial, is
> not a problem. Burning up machinery is. Another machine, of much higher
> quality, had the cycles changed from 60 to 50 by using weaker springs
> on the armature at the back of the motor. They supplied the springs and
> cautioned I not use the machine for more than 15 minutes continuously
> or I might heat up and overload the motor as it is now reading 276
> volts. I'm a carpenter, not an electrical engineer. I don't have a clue
> of how that works; I just did what the engineer said. Can you help?
> Thanks, Dave

Are you sure the motor is rated 220V 60Hz? As I understand it the US national household voltage is set by ANSI C84.1 and is supposed to be 120V +/−5% under normal circumstances. The stuff coming out of my outlets usually measures around 117V−120V. Since we obtain our 120V supplies from center tapped transformers, the "220V" supply should actually be 240V in the United States. I would guess that since everyone including many fellow United Statesians think we run on a 110V/220V system, we must have done so in the past. I assume over time we have increased the voltage supplied slightly to improve transmission efficiency and power handling capability with negligible changes in the infrastructure.

Anyway, if your motor is old, perhaps it really was designed for 220V 60Hz, but if it is relatively recent, I would expect it to be designed for and rated at 240V 60Hz instead. If that were the case, then running it at 230V 50Hz wouldn't be as much of a stretch.

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