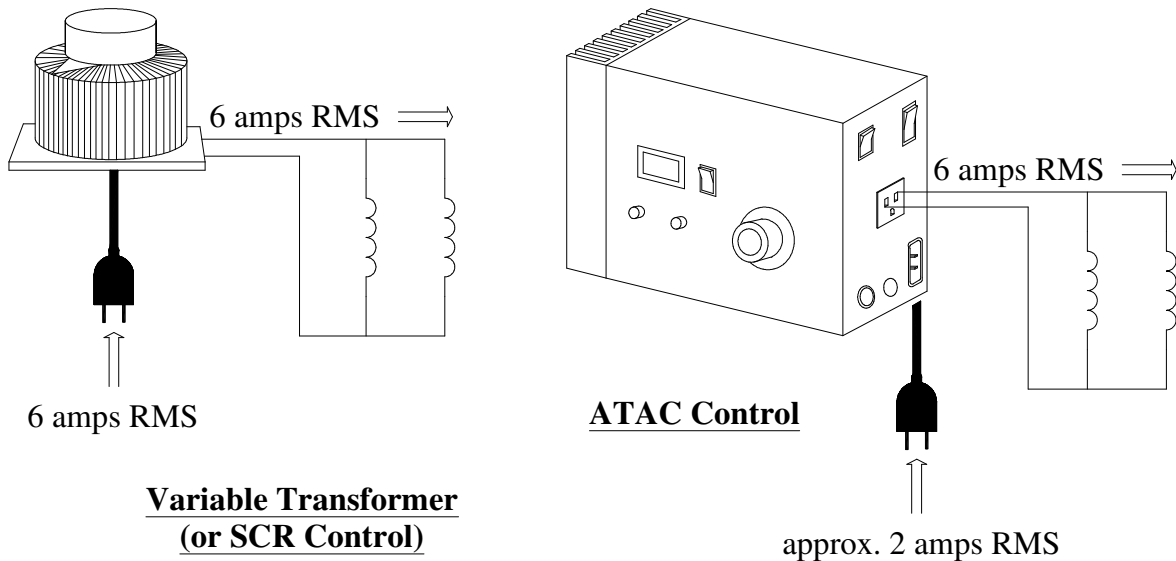


□ Increasing Atac Power Efficiency

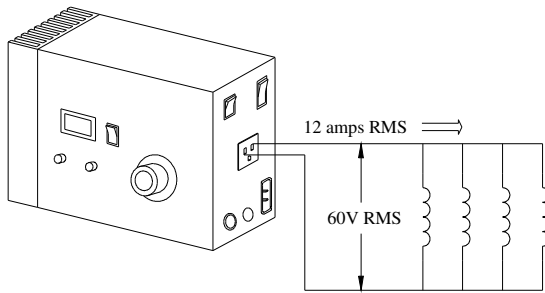
ATAC-driven vibratory feeders assume automatic increases in efficiency from the gains associated with exciting the bowl at its natural, resonant frequency. As the controller actively seeks feeder resonance (*Active Tuning*) and maintains output frequency to match, current requirements decrease dramatically with respect to a given level of vibration intensity, allowing the bowl coils to run cooler. Furthermore, because of its *Power Factor Correction* ability, the ATAC also draws far less current from the source line than traditional SCR-based controls for a comparable output level to the coils.



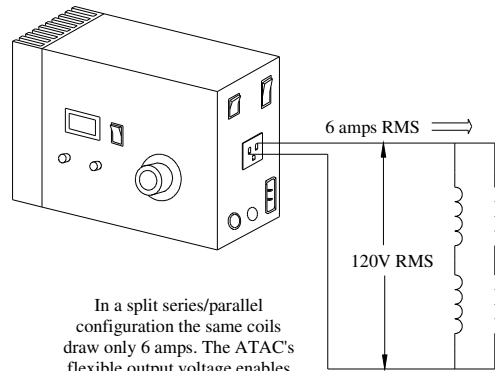
Power factor correction of the ATAC enables more drive current from less source current.

These gains are automatic, and in addition to the control benefits the ATAC delivers by actively maintaining feeder vibration intensity level (*Amplitude Control*), regardless of bowl loading, source line voltage variations, etc. However, exploiting the output range and resonance-tracking capabilities of the ATAC may enable further savings in the power efficiency of the circuit. In particular, many feeder coils may not require the full voltage capabilities of the Atac to achieve a desired level of vibration intensity. Reconnecting the coils on such a feeder to present a higher impedance to the controller might allow identical levels of vibration amplitude while effectively halving the drive current.

For example, assume a four-coil feeder bowl with a natural resonance of 60 Hz is required to operate at a particular level of vibration intensity. If a connection scheme of all four coils in parallel enables the **ATAC** to achieve the desired vibration amplitude with only a moderate set point, then reconfiguring the coils in a split series / parallel configuration would effectively half the drive current drawn. However, because of the **ATAC's** wide range of output voltage and resonance-tracking nature, the desired vibration intensity would still be maintained resulting in no loss of feeder performance!



Four coils in parallel that draw 12 amps with 60V



In a split series/parallel configuration the same coils draw only 6 amps. The ATAC's flexible output voltage enables maintaining the same level of vibration intensity.

It should be noted that this is just one example, and this arrangement either may not be possible or may be improved upon, depending upon the size and resonant frequency of your feeder, typical loading, line frequency, etc. However, in any situation where feeder performance and efficiency are of primary concern, you will always find the best and most cost-effective solution for your feeder control problems will be the **ATAC** from **TS ENGINEERING, INC.**