



VSDs in Pumps & Fans

Apart from use on compressors, variable speed drives are very useful energy saving devices in conjunction with condenser water pumps, chilled water pumps and AHU fans too.

Pumps

In a system designed to maintain a specific temperature difference across the condenser, it may be found during off-load conditions that the temperature difference is much less than necessary. The pump is unnecessarily pumping excess cooling water across the condenser. If a VSD is used instead of the standard constant speed drive in such an instance, it would constantly measure the temperature difference, change the speed of the pump to vary the flow of cooling water across the condenser and maintain the difference at design levels.

The result could be an energy saving of over 25%.

Similarly, chilled water pumps are designed for peak load capacities, whereas a VSD helps to run it to the required demand only, thereby saving sizeable amount of energy.

Fans

In an AHU, the temperature of the return air is sensed and the speed of the fan lowered during off-load conditions. This not only saves power, but it also provides more comfort in the conditioned space. **Again, energy savings could exceed 25%.**