



Motor management is a great opportunity for motor-intensive industries (one that can lead to bottom-line savings and improved performance in motor systems). As you build or enhance your motor-management plan, don't overlook the value of variable frequency drives (VFDs). They may be a great addition to your plan.

Scheduled downtime offers a chance to take a good look at your motor systems to determine where your business can save energy and money with a VFD. When VFDs are properly applied, the energy savings can be substantial. A misapplied VFD, however, could end up costing you both energy and money. Given the need to get your process up and running again quickly, how can you tell if a VFD is right for you? A central principle of motor management applies: It pays to plan ahead.

What is a VFD?

A variable frequency drive—*also referred to as an adjustable speed drive (ASD), variable speed drive (VSD) or inverter*—is a device used with a motor to reduce the overall system power consumption by varying motor speeds in applications that do not need to operate constantly at full speed. This speed variation enables the motor power to follow variations in load, rather than operate unnecessarily at full speed.

When might a VFD be the right choice to achieve savings?

In general, VFDs save energy in variable-load applications. Motor systems that are good candidates for VFDs include:

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- Those that power centrifugal fans, pumps or blowers.
- Those that operate 2000+ hours per year.
- Those where fluid- or air-flow demand varies over time.
- Those where valves, throttles or dampers are used to regulate flow and pressure.

Important considerations

There are many application-specific issues to consider. In general, though, VFDs are not likely to achieve savings in applications where motor load does not vary—*including those in which motor speed or horsepower remain constant, or in applications involving high static pressure*. Be sure to ask your utility representative or a motor expert about other application-specific considerations. Additional information and links to a variety of credible resources are available in the MDM Resource Library at www.motorsmatter.org/resources/asds.html.

VFDs may be able to save you energy and improve your bottom line. Like good motor management, successful integration of these types of drives requires that you know your motor systems, understand your options and have a plan for moving forward. **MT**

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